

# Infantry



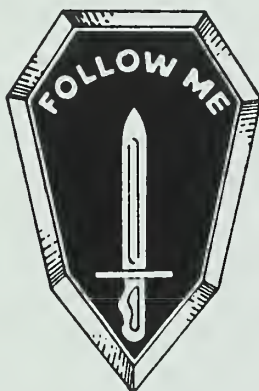
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Secretary of the Army

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Commandant, The Infantry School

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# Infantry

January-February 1989

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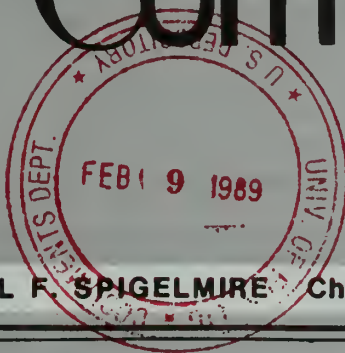
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# Commandant's NOTE



**MAJOR GENERAL MICHAEL F. SPIGELMIRE** Chief of Infantry

## M16 RIFLE MARKSMANSHIP

Over the past several months, the Infantry School has been looking hard at M16 rifle marksmanship and at an overall training strategy that will be most effective in producing individual and collective proficiency with the M16 rifle. We have assessed the way our Army is fostering the basic principles that have resulted in success in combat in the past, and that might well mean the difference between success and failure in the future.

The Army's rifle marksmanship program is deeply rooted in the fundamental principle that all soldiers must be skilled marksmen who can effectively apply their shooting skills in combat. The Army Training Centers provide field units with soldiers who have learned the basic marksmanship skills and tasks. By the time they graduate, the initial entry soldiers in these centers have demonstrated their basic rifle marksmanship proficiency. They can maintain the M16 rifle and keep it operational; they understand the fundamentals of shooting and have fired under a variety of conditions—day, night and while wearing protective masks. This basic rifle marksmanship training is coupled with other critical soldier skills and is demonstrated in limited collective tactical exercises while the soldiers are still in the training base.

Marksmanship skills, however, are perishable. The degree of skill decay depends upon the complexity of the task and the time lapse between refresher training and practice. Basic rifle marksmanship skills, therefore, must be sustained in the field by knowledgeable trainers and leaders. In fact, knowledgeable instructors and small unit leaders are the critical link in the sustainment of basic marksmanship skills and in the development of advanced skills.

To make sure our units get instructors and leaders who can perform this task effectively, the Infantry School has integrated a "train-the-trainer" module into several of its courses—the Infantry Basic Noncommissioned Officer Course (BNCOC), the Infantry Advanced Noncommissioned Officer Course (ANCOC), the Infantry Officer Basic Course (IOBC), the Infantry Officer Advanced Course (IOAC), and the Infantry Precommand Course (IPCC). This module culminates

for aspiring squad leaders, platoon sergeants, platoon leaders, and company commanders in firing on a record fire range. A rating of "expert" for each individual is the goal. Through this program, we hope to produce leaders who can not only teach others to shoot but can also demonstrate their own prowess with the M16 rifle to their subordinates.

The new version of Field Manual 23-9, M16A1 and M16A2 Rifle Marksmanship, is designed to lead trainers through the process of planning, conducting, and evaluating performance-oriented marksmanship instruction. It provides the training principles, strategy, and methodology (techniques and procedures) used to build initial marksmanship skills and to sustain unit small arms combat readiness.

All infantry leaders should read this manual, because it contains the standards for training and qualification; establishes approved alternate qualification courses; outlines sustainment tables, events, and frequencies for a year-round program; provides guidance on advanced skills; provides leader checklists and range operation guides; and discusses the use of training aids and devices and plastic ammunition.

The marksmanship skills developed as a result of information contained in FM 23-9 must also be integrated into the tactical environment. Unit live fire exercises and force-on-force training using MILES must be a part of the total marksmanship program. Special collective live fire tables and conditions and standards are being developed now to complement the ARTEP Mission Training Plans for each type of organization. The School's integration of live fire exercises into all leader courses should produce leaders who can develop and execute this critical training effectively and safely.

In summary, the Infantry School will continue to improve train-the-trainer modules in its officer and NCO courses and to provide improved rifle marksmanship training devices. The most important factor in an effective unit marksmanship program, however, will always be commanders who emphasize marksmanship and trainers who train smart and train to standard.

# INFANTRY LETTERS



## MORE ON EIB ROAD MARCH STANDARD

Reference Captain Martin N. Stanton's letter on the EIB road march standard (INFANTRY, July-August 1988, pages 5-6), many people over the years have questioned various aspects of the criteria for awarding the EIB. Like tall trees in a windstorm, the criteria have swayed back and forth many times, but thus far have always settled down in a relatively strong position.

The purpose of the EIB road march is to add one more important criterion to a long list of criteria that collectively say "This soldier is not just an 11B, but an expert 11B." I think that is an important distinction. The badge testifies that the wearer was willing to dedicate extra effort to master the tasks, to endure the pain, to face challenge with confidence, to risk failure, and to participate in keeping a proud tradition alive and consistent. I believe that a soldier so inclined can be depended upon to do any other difficult and extra task he is asked to do.

Captain Stanton, like many others before him, has proposed some test of *will* other than the 12-mile road march. What he hasn't done is to show why his proposal is any better than the current test of *will*. I can see no relationship between military operations and 12 miles in a PT uniform. He would have to prove that 25 miles in 9 hours is better than the EIB standard, or better than 50 miles in 20 hours, or an infinite number of other combinations. Then he would have to define "full combat load."

I am not against change, only against change just for the sake of change. I would not want to change the requirements for the EIB except after careful consideration, because, among other things, the EIB should represent a baseline against which to compare soldiers. I want the badge I wear with *pride*, *concern*, and *professionalism* to be equal to,

but not better than, the ones that were earned last year and the ones that will be earned next year.

If I were to propose a change, it would be to authorize the addition of some currency device to the badge so that one could tell *when* the wearer had been declared an *expert infantryman*—maybe something that showed annual reaffirmation.

CARROLL D. CHILDERS  
LTC, Infantry  
Virginia Army National Guard  
Bowling Green, Virginia

## STANDARDIZED UNITS

I commend you for publishing yet another new article on exactly how units should best be organized for training in and conducting the art of warfare ("Standardizing Our Units," by Major General Kenneth C. Leuer, September-October 1988, pages 1-2). I have been through only three major TOE changes in my brief 18 years in the infantry, but these changes significantly disrupted the units with which I was associated.

This proposal, however, is simply another of the many subjective opinions on what is the *best* system. I have always felt that I could "fight and win" with any of the TOEs over the years. Which one was *best* is a relative and subjective opinion that will beget as much discussion as the TOE composition itself.

I laud the conclusion that the foot soldier will never be obsolete. Someone has to occupy and manage the final piece of ground (the part with human involvement), and only the soldier, not the equipment, can do that. Occasionally, technology (such as gunpowder, radios, or airplanes, not different *types* of them), will dictate modification. Whether we should have 3-5 platoons, 7-13 people in the squad, or 3-6 companies in a battalion

will never be finally resolved.

My real question is: If we decided that now is the time to pick the "final" TOE (or at least one that might endure for one infantryman's career), could you accept the fact that your solution was not picked?

The proposed rifle company looks good to me. In fact, it looked good in 1971. The only differences are that the old me said "special weapons" (106mm recoilless rifle and later, TOW) instead of "Dragon teams," and the machineguns went from the rifle squads to the platoon headquarters to the weapons platoon with every changing commander.

Why not change "Dragon teams" to something else? (Dragons won't last forever.) Why not assign the machineguns by individual soldier (paragraph and line number in the TOE) and let the platoon leader and the company commander do what they are getting paid for?

As the article says, "For combat, leaders must task organize on the basis of METT-T. Nonetheless, as a point of departure, we should want all units to have the same basic organization."

JAMES W. CRAWFORD, JR.  
LTC, Infantry  
Gonzaga University  
Spokane, Washington

## M249 MACHINEGUN (SAW)

The adoption of the M249 SAW has corrected the outstanding equipment deficiency of the United States Infantry. But the decision to replace automatic rifles with it on a one-for-one basis shows that the related organizational and tactical defects are still with us.

The most effective infantry squads or sections, at least since von Hutier's offensive at Riga in September 1917, have been organized as a light machinegun team and a maneuver element. And the



tactics of these groups have been based on getting the machinegun into the best possible position from which to support the offense and provide the basis for the defense.

A weapon such as the M249 with a quick-change barrel and a large-capacity feed system—if it is adequately supplied with spare barrels and ammunition—has at least eight times the sustained firepower of a normal rifle.

A good start for a nine-man squad would be a four-man machinegun team with at least two spare barrels, a four-man team with rifles and grenade launchers only, and the squad leader. Tactics should then be developed that would allow the most effective use of the machinegun.

RICHARD J. WEADER II  
Framingham, Massachusetts

## CAMBs—LET'S LOOK BEFORE WE LEAP

For several years, I have watched with alarm the Army's unthinking drift toward the CAMB (combined arms maneuver battalion) organization. (See "CAMBs: A Better Solution," by Captain Matthew Moten, *INFANTRY*, September-October 1988, pages 13-15.) It seems that the further we get away from wartime experiences between large armored forces, the more appealing ideas such as the CAMB seem to get. This trend is understandable, since most training today is at the task force level. Thus, we tend to think by implication that in a future armored conflict the task force will be the keystone organization, and that, therefore, anything that increases the effectiveness of the task force must, in itself, be good.

Part of the blame for this thinking lies with NTC training, which currently is at task force level. The lessons we learn there must be viewed with caution, however, since many components are absent that would be present in combat between large forces.

Principally missing are the effects that actions by higher echelons have on the task force battle. Among these are the effect of the covering force battle in the

main battle area, the effects of corps and division deep battle actions, the easing of the task force commander's burden by functional chains of command (ADA, Engineer, Artillery, for example), and most important, the effect on the task force of task organization by the corps, division, and brigade.

Task organization is a technique that has been proved by time and by warfare. The premise behind the concept lies in the principle of economy of force. We task organize at every level in order to apply limited resources in the most effective manner. This allocation of resources is based on a detailed estimate of the situation and on the selection of a course of action. Higher echelons provide the resources the units need to accomplish the assigned tasks under an acceptable degree



of risk. Since the ratio of armor to mechanized infantry is fixed in the CAMB, there is no question that the concept limits a brigade commander's flexibility in task organizing his battalions to meet the specific needs of the situation.

Advocates of the concept acknowledge that this is a disadvantage, but one they are willing to bear for the benefits that accrue from the organic association between armor and mechanized infantry units at the task force level. As evidence of the wisdom of such a tradeoff, NTC performance is often cited. Yet, the NTC provides an experience that does not adequately represent the contributions of multiple echelons of command on the direct fire battle. I am fairly confident that five years from today, when the NTC is fully exercising brigades, the argument will shift to the need for self-sufficient brigade task forces with *organic* artillery, engineers, ADA, and so on. The brigade will then become the central tactical or-

ganization in the minds of commanders, just as the task force is central today. And if we were to run large scale division level exercises some day, a different focus would once again emerge.

Military organizations grow and evolve as a result of many factors. Among them are changes in doctrine, technology, or the threat, and feedback from actual war, training exercises, or wargaming. The NTC offers us valuable, training-based feedback on our procedures, tactics, and organizations. But this feedback must be examined rationally to determine which lessons are applicable to a full-scale war between mechanized forces and which lessons are the result of the limited NTC environment. I fear that the drift toward the CAMB is the result of an NTC-peculiar situation.

There are many good reasons for the current battalion organization along branch lines. Most of these reasons have to do either with efficiency in training or with the level at which combined arms are most effectively and efficiently integrated. Today, the responsibility for combined arms integration rests at brigade level. Here, armor battalions, infantry battalions, and combat direct support assets are task organized to accomplish specific missions. We have selected the brigade as the level for combined arms integration on the basis of a wealth of historical, modeling, and training experience. We should be very careful in discarding this experience for the short-term benefit of winning at the NTC.

ANTHONY M. COROALLES  
MAJ  
Schofield Barracks, Hawaii

## CANADIANS IN VIETNAM

As Military Historian of the Canadian War Museum, I am trying to contact Canadians who served in the armed forces of the United States in Vietnam.

If any veterans of that war can be of assistance, please write to me at the Canadian War Museum, 330 Sussex Drive, Ottawa, Canada, K1A 0M8; telephone (613) 996-1388.

FRED GAFFEN



## GUMMY BEAR LEADERSHIP

As Inspector General of the 2d Infantry Division in the Republic of Korea, I always took time during inspections to conduct seminars with soldiers, NCOs, and particularly junior officers. This gave me an opportunity to share some of my own experiences with young officers just beginning their careers. One of these experiences I called "Gummy Bear Leadership," on how to motivate and reward soldiers.

Earlier, after I had finished the advanced course in 1973, I was sent to Indiana University to get a master's degree in physical education. One course was taught by Dr. Councilman, the swimming coach, possibly the best swimming coach in the Big 10 Conference. (He had coached such notables as Mark Spitz, who won seven gold medals in the 1972 Olympics.) Doc's PhD was not in PE but in psychology, and the class was one on the high level performance of athletes.

One day I commented to Doc that it must be satisfying to take young swimmers from high school and teach them to be great swimmers. He said he did not do that; he recruited great swimmers and there was very little he could actually teach them. His reply surprised me, and I asked how he managed to have one of the consistently best swim teams in the nation. Through motivation, he said. Later I learned Doc's secret of Gummy Bear Leadership and the three principles of motivation involved.

Doc would buy Gummy Bears (the tiny German candies made in the shape of teddy bears) by the case, and always carried a bag of them during swimming practice. Any time a swimmer performed well in practice he would immediately be rewarded with a Gummy Bear. More often than not, Doc would challenge a swimmer; for example, if the swimmer could do the next lap one-tenth of a second faster, Doc would give him a Gummy Bear, immediately, in front of his peers so that everyone would take notice. At the end of the practice, Doc would reward everyone by throwing the Bears into the pool. The scene was similar to a shark feeding frenzy.

It may seem too simple, but it worked. The swimmers would swear that Doc's

Gummy Bears tasted better than those they could buy in a store.

Doc's Gummy Bear Leadership worked on three principles, which are as true in the Army as they were in college swimming:

- The reward was immediate—not after practice, the next day, or the next week.

- The reward was presented in front of peers.

- The reward was presented by the coach, never delegated to the assistant coach, the manager, or the deputy.

Everyone likes to be a winner at some time or another, and successful leaders look for opportunities to make their subordinates winners—even if they have to create the situation. The more often the feeling of being a winner is reinforced, the more people want to win.

Does this type of leadership work in the Army? A platoon leader has only to try it to prove it. One platoon leader in the ADA battalion of the 2d Division did just that. Since Gummy Bears were not readily available in Korea, he used Tootsie Rolls. Every time he saw a soldier doing something well, he gave him a Tootsie Roll sucker. Soon, whenever one of his soldiers did something outstanding when he was not there, the soldier went and found him to report his performance and get a Tootsie Roll. This lieutenant ended with an exceptional platoon.

It seems simple, and it is. It also seems too childish to work with soldiers, but it does. And if it works, who cares if it looks childish or too simple to outsiders?

The only thing that is important is this: a soldier knows that his leader knows he did a good job and rewarded that performance immediately in front of his peers.

MONTE R. ANDERSON  
LTC, Infantry  
Hofstra University  
Hempstead, New York

## TENTH MOUNTAIN DIVISION

Some 3,800 veterans are members of the National Association of the Tenth Mountain Division. In a unique, cooperative effort to preserve the history of this important unit, the Denver Public Li-

brary and the Colorado Historical Society have announced the creation of the Tenth Mountain Division Resource Center (TMDRC).

The center, managed jointly by both institutions, will collect and maintain archival material and artifacts contributed by veterans of the Division.

The Library's Western History Department will supervise a special collection of documentary and archival materials, such as letters, induction papers, personal notes, manuscripts, film and video materials, photos, and scrapbooks. The Colorado Historical Society will be responsible for three-dimensional items such as clothing, equipment, weapons, packs, insignia, and metals, and original artwork.

The TMDRC will provide access through a nationwide computer database, preserve materials by the most modern methods, and be able to respond to queries for information.

This arrangement does not obligate Association members to donate their items to the Denver institutions. But materials have already been received from many members, including the collection of the first president and chairman of the Association, Earl E. Clark.

For information on the TMDRC, or to contribute materials, contact Barbara Walton, Denver Public Library, 1357 Broadway, Denver, CO 80203, (303) 571-2015; or Georgianna Contiguglia, Colorado Historical Society, 1300 Broadway, Denver, CO 80203, (303) 866-4697.

BONNIE McCUNE  
Denver Public Library

## SMOKE/OBSCURANTS SYMPOSIUM

Smoke/Obscurants Symposium XIII will be conducted 25-27 April 1989 at John Hopkins University, Laurel, Maryland.

Further information is available from Science and Technology Corporation, P.O. Box 7390, Hampton VA 23666-0321.

CAROLYN A. KEEN  
Symposium Coordinator



# INFANTRY NEWS



THE 1989 INFANTRY Conference will be held at Fort Benning 10-13 April 1989. An agenda is now being developed.

All correspondence concerning the conference should be addressed to the Office of the Secretary, ATTN: CPT Megahan, U.S. Army Infantry School, Fort Benning, GA 31905; AUTOVON 835-1727/3731, commercial (404) 545-1727/3731.

INFANTRYMEN should use the Infantry School's Army Correspondence Course Program (ACCP) to further their professional development and to reinforce their training experience.

Infantry courses are available for professional development and skill progression in tactics, weapons, maintenance, leadership, and operations. In many cases, successful completion of courses earns promotion and retirement points.

DA Pamphlet 351-20, Army Correspondence Course Catalog, contains a complete listing of ACCP courses and enrollment criteria.

THE INFANTRY SCHOOL has developed a three-phase progressive marksmanship training program consisting of preliminary rifle instruction (PRI), downrange feedback (known distance/modified field fire), and field training.

In the PRI phase, the fundamentals of rifle marksmanship and safety are taught. Downrange feedback is a practical application phase that gives soldiers an opportunity to put the fundamentals into practice using known distance targets and modified field fire target engagements.

In the field firing phase, trainfire range firing completes the critical transition from known distance shooting by applying fundamentals for quickly engaging combat targets. Additionally, the soldiers fire in

a simulated chemical environment and during periods of reduced visibility.

An effective unit rifle marksmanship sustainment program should incorporate quarterly training from all three of these phases with particular emphasis on the fundamentals.

The phases of rifle marksmanship training, training objectives, and lesson outlines are covered in detail in the Basic Rifle Marksmanship (BRM) program of instruction (POI) (Supplement 3 to POI 21-114). The new FM 23-9, M16A1 and M16A2 Rifle Marksmanship, will address establishing a correct unit rifle marksmanship sustainment program. The manual is scheduled to be fielded during the second quarter of Fiscal Year 1989.

THE NEW MC1-1C personnel parachute has a no-porosity nylon material in its canopy that results in a smoother landing. A modification of the standard MC1-1B, it has a rate of descent of 14.6 feet per second. This is much slower than the current MC1-1B, which has a standard of 21 feet per second.

The chute, which was developed by the JFK Special Warfare Center and School to meet the needs of Special Forces and Ranger units, also has a good forward drive and faster turning.

Because resupplying is difficult during Special Operations missions, Special Forces soldiers and Rangers carry as much as 120-130 pounds of equipment. With conventional parachutes, this extra weight means harder landings that increase the chances of personal injury and equipment damage.

## 1988 INDEX

The 1988 index to **INFANTRY** has been prepared separately and is available to anyone who requests a copy. Please address your requests to Editor, **INFANTRY**, P.O. Box 2005, Fort Benning, GA 31905-0605.

The chute's forward drive of eight to ten knots—an increase of two to four knots—will enable a parachutist to maneuver faster and easier around dangerous ground obstacles such as trees and boulders. The forward drive modification was achieved by removing more than 59 square feet of material from the back of the chute. This gives it the recognizable appearance of the letter H.

The MC1-1C uses the standard MC1-1B harness, pack tray, deployment bag, and packing procedures. It is designed to be as reliable and easy to maintain as its predecessor.

The fielding of the parachutes began last summer.

A RAPID-FIRE 81mm mortar system called the TMT81 is being developed by the French Army. It will be mounted in both the French AMX10P (mechanized infantry vehicle) and the VAB (motorized infantry vehicle).

The mortar system has four automatic function modes—loading, unloading, rapid fire, and single round. In the burst mode the weapon is capable of a maximum rate of fire of five rounds in four seconds or a continuous rate of fire of 30 rounds per minute. The vehicle carries 90 81mm mortar rounds and a crew of four.

The TMT81 will fire four varieties of munitions, including all the 81mm munitions currently in service in the French Army that do not exceed 512mm in length. Its gas-evacuation system also serves as an NBC overpressurization protective system. With current French munitions, the mortar has a range of 6,000 meters.

THE NATIONAL INFANTRY Museum is continuing the revision of its exhibits, with work now being done on



the portrayal of 19th century infantry activities in both war and peace.

A separate exhibit on display is one on military music that includes items from every period. The oldest piece in the music collection is a drum major's baton carried by a soldier of Great Britain's 122nd Regiment of Foot in the Revolutionary War. The newest is a violin made



from ammunition boxes and decorated with shoe polish by a U.S. soldier while serving in Vietnam. Also included in the display is an important collection of World War I liberty and patriotic songs in sheet music form.

This exhibit recognizes the important role that music has played in support of the infantryman through the years—inspiring patriotism and the fighting spirit.

The drum and fife were used in the American Revolution to call attention to news being broadcast by the town crier, to muster the local militia, to accompany drills, and to sound signals. Will Diamond and Jonathan Harrington, the drummer and fifer at Lexington in April of 1775, were often told that their duties—battle signals and music for troops to march by—were more important than two more guns in the firing line.

With few exceptions, military leaders have always recognized the importance of music. Robert E. Lee once said, "I don't believe we can have an army without music," while Baron von Steuben, as soon as he had completed his *Manual of Arms*, wrote a regulation on "the Different Beats of the Drum."

The drum remained the principal signal instrument for the infantry until the Civil War, when trumpets and bugles became standard for almost all troops. During that war, bandsmen were mustered in and paid solely to furnish military music. Later on, in addition to playing for dress parades, guard mount, morning colors, reviews, funerals, and the like, band musicians served as stretcher bearers and medical corpsmen. Some manned muskets in battle.

Patriotic songs reflect the thoughts and feelings of Americans during periods of crisis. These songs help to foster patriotism in the Army and the populace and instill a sense of the importance of the cause in each particular war. Usually sentimental, they have a powerful effect on the emotions of their listeners.

The photograph shows part of a display in which a drum of the Civil War period is featured.

**THE ARMY'S ADVANCED** Antitank Weapon System-Medium (AAWS-M) is a step closer to production. The contractors in the AAWS-M competition have demonstrated their respective systems during flight tests at Redstone Arsenal and are eligible to be considered for full-scale development.

Ford Aerospace, Hughes Aircraft, and Texas Instruments have met the minimum requirements by successfully engaging six of ten mandatory targets during proof-of-principle flight tests.

Based on the test data and on proposals the companies have submitted, the Army will select one contractor team in early 1989 for full-scale development of AAWS-M. Ford is teamed with General Dynamics, Hughes with Honeywell, and Texas Instruments with Martin.

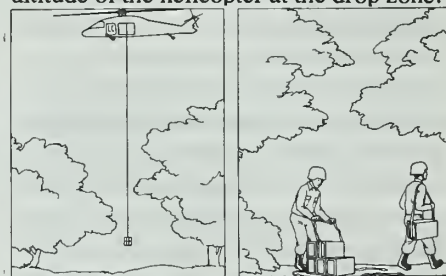
AAWS-M is intended as a one-man-portable, medium range, antiarmor weapon that will replace the Dragon and give the soldier substantially greater capabilities than the Dragon provides.

**A NEW ROTOCRAFT** ammunition delivery system is being developed by the Natick Research, Development, and Engineering Center. It would consist of two parts, a lowering device and manportable

modules. Loads would be lowered to the drop zone on a rope from a helicopter flying at altitudes too low for parachute drops. This concept is presently being developed for use with the UH-60 helicopter to deliver up to four 450-pound loads of small arms ammunition per sortie.

The manportable module is a harness and shoulder strap system that quickly adjusts to fit any small arms ammunition case. It permits one person to carry one case of ammunition easily. The harness can be secured around an ammunition case with quick-release buckles. Once a load is delivered, the harness unhooks for reuse.

Two methods of dropping a load from a helicopter are being investigated. The first, called a "sky genie," uses friction on a rope wrapped around a cylinder to control the rate of descent. The amount of friction can be adjusted, but the rope must be precut to a length equal to the altitude of the helicopter at the drop zone.



When the end of the rope passes through the "sky genie," the load is free of the craft and the rope falls to the ground with the load.

The second method employs an automatically controlled brake that maintains a constant drop speed. Rope is supplied on 50- to 100-foot spools and can be quickly attached to the brake device. Both of these settings can be made while a helicopter is approaching the drop zone. The brake automatically controls the velocity of the load until the exact length of rope reels out to touch down.

The rotocraft ammunition delivery system can deliver six case bundles of small arms ammunition accurately without requiring a helicopter to land or stop, thereby reducing the aircraft's vulnerability to ground fire.



THE 1988 NATIONAL Infantry Ball was held on 19 November 1988 to celebrate the 213th anniversary of the U.S. Infantry. The host, Major General Michael F. Spigelmire, Chief of Infantry, presented the 1988 Doughboy Award to General (Retired) Frederick J. Kroesen for his many years of distinguished service to the Infantry.

General (Retired) William J. Livsey was the evening's guest speaker, and a special presentation was made to General Arthur E. Brown, Jr., retiring Vice Chief of Staff of the Army, in recognition of his outstanding career as an infantryman.

Participants in the program included the 3d U.S. Infantry (The Old Guard) and the 82d Airborne Division Chorus.

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THE AMMUNITION for the M16A1 and M16A2 rifles has raised some questions in the minds of soldiers in the field. The M16A1 fires M193 ball ammunition (plain copper-colored projectile), and the M16A2 fires M855 ball ammunition (green-tip projectile).

The questions are: Is it safe to interchange this ammunition? If it is, what about accuracy?

Live fire tests were conducted recently at Fort Benning by the U.S. Army Marksmanship Unit (USAMU) to answer these questions and to verify the safety versus accuracy statements that appear in the final draft of the new FM 23-9, M16A1 and M16A2 Rifle Marksmanship.

As always, safety is of the utmost importance, and USAMU tests verified that it is safe to fire either the M193 or the M855 round from any currently serviceable M16 rifle, A1 or A2. The exterior dimensions of the two cartridges are the same, and both will function safely in either rifle.

As to accuracy, once again the tests verified the FM's position. M193 ammunition fired from the M16A2 rifle displayed an accuracy comparable to that of M855 ammunition out to 400 yards (366 meters), the maximum range of the tests. Beyond that range, the heavier (62-grain, steel-penetrator-tipped) M855 projectile, coupled with the increased barrel twist (1:7) of the M16A2 may result in smaller shot groups, greater wind resistance, and

better penetration over the lighter (55-grain, solid-lead-core) M193 projectile.

On the other hand, M855 ammunition fired from the M16A1 rifle displayed accuracy problems as close in as 25 meters. Most of the M855 rounds fired at this range from the M16A1 made keyhole-shaped bullet holes in the targets (indicating that the rounds yawed and pitched at the moment of impact). At longer ranges, testing showed a further loss of accuracy. F-silhouettes engaged at 100 yards (91 meters), for example, indicated a 70 percent probability of hit (PH). E-silhouettes engaged at 100 yards (183 meters) showed a 30 percent PH. The same targets engaged at 300 yards (274 meters) resulted in a 24 percent PH.

This loss of accuracy beyond 100 meters with the M16A1 is due almost entirely to barrel twist. The M16A1 rifle barrel, with a twist of 1:12, simply does not give enough spin to the M855 projectile to stabilize it before it begins to drift away from its intended trajectory. Elongated bullet holes in targets at 25 meters showed this instability.

Although bullets that hit targets at ranges beyond 25 meters produced round holes (indicating stable flight characteristics), the damage had already been done, as shown by the enlarged shot groups. By the time the M855 projectiles fired from the M16A1 reached stability, they had yawed and pitched themselves out of a group size that could have been expected if M193 rounds had been fired from the same weapon.

Although care should be taken to fire the appropriate ammunition in each rifle, M855 and M193 ball rounds can be interchanged safely. While the M16A2 rifle can deliver accurate hits out to 500 meters (according to the FM) using either round, the M16A1 rifle cannot deliver acceptable PH beyond 100 meters using M855 ammunition.

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A REACTIVE ARMOR applique system has been developed that will significantly increase the protection of tanks and armored fighting vehicles when fired upon by shaped-charge warheads.

The system is made up of tiles in two sizes, each containing a relatively insen-

sitive explosive that reacts with a jet from an incoming shaped charge warhead and reduces its effectiveness before it reaches the main armor of the vehicle.



One of the tiles is a one-foot square metal box, two inches thick that contains reactive armor plates and explosive. The other consists of the same material but is 50% larger.

The tiles were demonstrated to be safe under all test conditions.

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THE 6th INFANTRY DIVISION (Light), headquartered at Fort Richardson, Alaska, is establishing a museum dedicated to the history of the division and of the U.S. Army in Alaska.

Authentic 6th Infantry Division documents, uniforms, and other historic items are needed.

Anyone associated with the 6th Division or the U.S. Army in Alaska who is willing to donate or lend such items may contact LT Robert Magrino or SFC Millard Bonner at (907) 862-2186 or 863-6197. The address is Commander, 6th Infantry Division (Light), Division Historian, ATTN: AFVR-PTM-T, Fort Richardson, AK 99505-5200.

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ALL ACCP STUDENTS should review their course records and check them for accuracy.

The Institute for Professional Development recently underwent a computer software conversion intended to improve ser-



vice to students of the Army Correspondence Course Program (ACCP). Following the conversion, however, it was found that some student records were incorrectly changed; for example, RYE dates were erroneously computed or changed, multiple issue of materials was directed, and the like.

All students are urged to report any discrepancies or problems to IPD. For prompt correction of any problems, contact Mrs. Margaret Burton, Chief of Student Services, at AUTOVON 927-3085 or commercial (804) 878-3085.

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**A NEW RESERVE COMPONENT** training strategy has been adopted by the Army. The strategy plans the training of the Army National Guard and the U.S. Army Reserve well into the 1990s. It serves as a framework to match the quality of RC training to the quality of Army equipment and training technology.

A major focus of the strategy is on developing leaders and training RC soldiers in their military occupations. It also emphasizes unit training and evaluation, planning and managing training, and training support.

The Army has already begun implementing the new RC training strategy with about 30 initiatives that require little or no cost and with selected high priority programs.

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**THE RESERVE COMPONENT** Training Net (RCTRAIN-NET) sponsored by the Army Training Board, provides a forum for the exchange of ideas, concepts and questions through a computer teleconferencing network.

The network is, or soon will be, available to all RC trainers who have access to a computer, a modem, and the appropriate software. The service is free except for the cost of a local telephone call.

Trainers at most major Army Reserve Training Commands have already received information packets that include local telephone access numbers and a user identification issued by the Army Training Board.

For more information, users and potential users are invited to contact LTC

William Boylan or LTC Ron Fritz, U.S. Army Training Board, ATTN: ATAB-C, Fort Monroe, VA 23651-5320, or call AUTOVON 680-4357/4358 or commercial (804) 727-4357/4358.

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**ACTIVE GUARD/RESERVE (AGR)** members need to keep their personnel management officers and career advisors informed of their *current* home addresses.

Bad address information not only causes problems for AGR members in receiving routine mailings from ARPERCEN but can jeopardize their promotion consideration as well.

If they are in doubt, enlisted AGR soldiers may write to Commander, ARPERCEN, ATTN: DARP-ARE-C, 9700 Page Blvd., St. Louis, MO 63132-5200; and officer members should write to the same address, substituting DARP-ARO-C in the attention line.

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**COMBAT ARMS SOLDIERS** in the U.S. Army Reserve may affiliate with any combat arms regiment that is part of the U.S. Army Regimental Affiliation System (USARS), consistent with their branch or MOS.

Under the guidelines of AR 600-82, The U.S. Army Regimental System, combat support, combat service support, special branches, and Corps of Engineers soldiers are automatically affiliated with the branch or corps to which they are assigned.

Procedures for requesting affiliation with a combat arms regiment are being worked out by the Army Reserve Personnel Center (ARPERCEN). Additional information will be published as it is made available.

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**THE JOINT STRATEGIC** Deployment Training Center was activated 1 October 1987 at Fort Eustis. The Center's mission is to develop and present resident and nonresident deployment training to selected officers, civilians, and noncommissioned officers charged with planning and executing operations plans.

The focus will range from simple unit tasks to detailed strategic movement planning.

Three courses are to be taught initially at the Center. Two of these—the Surface Deployment Planning Course and the Air Deployment Planning Course—began in the first quarter of Fiscal Year 1989.

The Surface Deployment Planning Course is a two-week resident course, designed in building block fashion to take a unit movement officer or NCO from the home station to the port of embarkation, and from the port of debarkation to the marshalling area in the theater of operations. With an emphasis on planning, coordinating, and executing unit movement plans, the course is built around four annexes: Movement Planning, CONUS Highway Operations, Rail Deployment Operations, and Marine Terminal Operations. The course is highlighted by extensive practical exercises.

The Air Deployment Planning Course is a three-week course that produces qualified air load planners. This course is designed for company grade unit movement officers and unit movement NCOs from all services, as well as DoD civilians involved in the movement planning process.

The course emphasizes hands-on exercises to instruct the students on hazardous cargo considerations, the preparation of unit equipment and personnel for movement, and the Civil Reserve Air Fleet.

Extensive practical exercises are used to teach detailed load planning, cargo and passenger manifest preparation, cargo loading, and CH-47 slingloading. Graduates are able to plan all aspects of unit strategic air deployment worldwide.

Both of these joint courses are open to unit movement personnel, in the rank of sergeant and above, of all services and all Army branches and components, including the National Guard and the U.S. Army Reserve.

The third course, Strategic Deployment Planning, is programmed to begin during the second quarter of FY 1990.

Students may enroll through their training offices to TRADOC. Further information is available from Janice Neff, AUTOVON 280-2161.



# PROFESSIONAL FORUM



## TRADOC Liaison Officers

MAJOR LEE F. DUFFY

Most people in the military services have heard, at one time or another, the expression "allied interoperability." Most of us are also aware that in broad terms this means developing compatible equipment, weapons, doctrine, and procedures so that we can more easily conduct military operations with our allies. (See also "Bridging Differences," Major James A. Kelley and Lieutenant Colonel Francis M. Glynn, *INFANTRY*, July-August 1988, pages 15-17.)

One important formal mechanism designed to accomplish this task today in the U.S. Army is a group of Training and Doctrine Command (TRADOC) liaison officers who serve as the focal point for allied planning and for the exchange of allied information. TRADOC maintains a worldwide network of liaison officers (LOs) to most of the United States' key allied nations.

Representing the U.S. Army and the United States as an LO to an allied army is a unique and challenging opportunity that brings with it a great deal of autonomy and responsibility. Since there are relatively few LO positions, however, it is not common knowledge that these LOs even exist. Thus, because many of our best officers do not compete for these positions, TRADOC is interested in correcting this situation by telling officers about them.

In general, the mission of a TRADOC liaison officer is to represent the com-

mander of TRADOC and his subordinate installation commanders and to serve as their primary communications channels with U.S. major commands and allied countries around the world. They coordinate the exchange of information between these organizations and countries on all aspects of doctrine, materiel, tactics, and procedures—working toward rationalization, standardization, and integration (RSI) or, basically, toward allied interoperability. This is a big mission and one in which individual liaison officers rarely see concrete and immediate results. Their successes are subtle, and

often incremental, yet extremely important to combined or allied operations.

TRADOC's liaison mission, managed by the TRADOC Field Element at Fort Monroe, Virginia, consists of nine liaison officers to nine major U.S. commands and 35 LOs to 10 allied nations (see table). In some cases—in the Federal Republic of Germany and France, for example—liaison officers are assigned primarily by branch, since they are accredited to host country branch schools. But in others, such as Israel or Italy, for example, where only one LO is assigned, the U.S. liaison officer might come from

NUMBER OF LOs	U.S. MAJOR COMMANDS	NUMBER OF LOs	ALLIED COUNTRY
1	U.S. Army, Europe/ 7th Army	1	Canada
1	U.N. Command/Combined Forces Command/U.S. Forces, Korea/Eighth U.S. Army	8	France
1	U.S. Army Aviation Systems Command/Troop Support Command	1	Israel
1	U.S. Army Japan/Japan Ground Self-Defense Force	1	Italy
1	U.S. Air Force Air Weather Service	1	Japan
1	U.S. Marine Corps Combat Development Command	1	Korea
1	U.S. Space Command	1	Spain
1	U.S. Southern Command	1	Turkey
1	U.S. Western Command	4	United Kingdom
		16	West Germany

any one of the combat arms.

A brief look at the organization of the TRADOC liaison net in France will illustrate one type of LO organization in a particular country.

TRADOC has eight liaison officers assigned, or accredited, to six French Army branch or service schools, plus the French staff college in Paris, all supervised by a colonel as senior LO, also in Paris. Since each LO has secondary accreditations to one or more additional schools or organizations in the French Army, however, the U.S. liaison net in France has much greater contact with the French Army than just the seven primary schools.

Since no U.S. troops are stationed in France, TRADOC LOs serve an extremely important function. For a large part of the French Army, contact with the LOs is the only contact it has with U.S. forces. Also, LOs have a much greater access to French Schools, and often units as well, than attaches have.

A closer look at one particular liaison position, that of the TRADOC Infantry LO to France, will serve as an example of what an Infantry officer might find himself doing as an LO.

The current TRADOC Infantry LO to France is an Infantry/Foreign Area Officer (SC11/FA48). He is technically assigned to Fort Benning, Georgia, but with duty in France. (His personnel records are maintained at Benning.) This type of organizational arrangement is important because it strengthens the ties between the liaison officer overseas and the U.S. branch school he represents.

## DEMANDING

The Infantry LO to France is accredited to four major French Army organizations, with his primary accreditation and his home base at the French Infantry School in Montpellier on the Mediterranean coast of southern France. But he must also divide his time among three other organizations: the French Airborne School (in Pau near the Pyrenees in southwestern France), the Operational Parachute Staging Base for the 11th Airborne Division (part of the French Rapid Action Force) located in Toulouse,

and the office of the chief of French Infantry located in Paris. As one might expect, performing this mission, in addition to visiting other units and installations, requires a great deal of travel. Because he is assigned directly to a French Army institution, he not only sees daily life in the French Army but takes an active part in it.

The primary mission of the TRADOC Infantry LO to France is to represent the Commandant, U.S. Army Infantry School (USAIS), in France and to work toward allied interoperability with French forces. He does this in several ways: by presenting lectures on the U.S. Army and NATO to French Infantry officer basic and advanced courses; by briefing senior French Army officers on such topics as AirLand Battle doctrine or NATO interoperability issues; by serving as an advisor to the commanders of his accredited French institutions on matters concerning the U.S. Army; by working with French Infantry combat development officers who are conducting research on materiel or doctrinal projects; and, among other things, by regularly serving as LO between U.S. and French units of corps size during major NATO command post exercises such as the Crested Eagle series. And, of course, he does all of these things using the French language.

In addition, to provide allied information to TRADOC and USAIS, the Infantry LO monitors all aspects of the French Infantry community including special operations forces, the French Foreign Legion, and mechanized, motorized, and airborne infantry forces. He then communicates items of potential interest to the U.S. Infantry community.

It should be quite obvious that being a liaison officer is not a typical assignment. The job carries with it some obvious hardships. For example, since LOs are generally the only U.S. personnel for hundreds of miles, there is no post exchange or commissary just around the corner, no Armed Forces Radio or Television, and the LO's children must attend the local school—and learn the language. Such common things as electricity bills, telephones, insurance, medical and dental care, and dozens of others can appear alien and confusing.

Because the assignment is in a new and

different environment, this type of work is not for everyone. Not only does an officer have to have a strong desire to be an LO, he must also have the unwavering support of his family members. It is not enough for the officer himself to want the job—his wife will also have to learn a foreign language and undergo the rigors of the three-year tour, and his numerous social responsibilities will require that he and his wife work as a team.

## REWARDING

But the job offers many rewards and advantages as well. The opportunity to represent the United States overseas as a military ambassador is a unique and exciting opportunity for a young officer and his family. The LO designs his own agenda within the guidelines established by his chain of command and U.S. policy—and, of course, bases it upon his own sense of responsibility and professionalism.

There are no set qualifications for becoming a TRADOC liaison officer to an allied country. Any officer with a good file and either confirmed language ability or the aptitude and desire to attend language school can become a liaison officer. The most important requirement is that he have a strong background in his branch. He should be in the rank of major or lieutenant colonel, but when necessary TRADOC has assigned qualified captains.

LO positions are slated by branch but usually with foreign area officer as a functional area. Even this can be waived, however, for an otherwise qualified candidate. And an officer must be willing to undergo a rigorous selection process. The most important criterion is that an officer have a sincere desire to participate in the development of allied interoperability and to see the gap between the United States and its allies diminish.

For the right officer, being a TRADOC liaison officer can be one of the most rewarding positions of his career.

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**Major Lee F. Duffy** is an Infantry officer currently serving as the U.S. Army Infantry School's liaison officer to the French Infantry and Airborne schools. He has served in Special Forces and Infantry units and has been selected to attend the U.S. Army's Command and General Staff College.

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# Weapon Positioning The Circular Technique

LIEUTENANT COLONEL PIERCE T. GRANEY, JR.  
ROBERT H. SULZEN

The Army's defensive doctrine is evolving from one of engaging the enemy at *maximum* range to one of massing fires on the enemy in a manner that will surprise, disrupt, and destroy him (FM 71-2J). The best way for a heavy task force to mass defensive fires that will surprise the enemy is through an approach that positions its weapons in depth with mutual support at the *optimal* range for each system.

When commanders focus on engaging the enemy at maximum range they tend to develop linear positions. This in itself seems to offer several advantages that should be enough to give a task force the winning edge in a defensive battle—the range offset over Soviet weapons, for example; the maximum engagement time gained; and the avoidance of decisive engagement.

Actually, though, engaging an enemy force at maximum range from a linear position has some distinct disadvantages: The enemy is more likely to get early warning about the task force's positions with more time to react; the signatures of the task force's antitank weapons, when they are fired from the front at maximum range, give the enemy more time to take evasive action during the missiles' time of flight; and at maximum range, the task force's ballistic direct fire weapons have a lower hit probability. In addition, linear positions are subject to easy detection, are easily smoked, and are more easily suppressed by artillery fire. Most important, the task force is less able to mass its fires or surprise the enemy.

From our experience at the National Training Center, we have developed another approach to positioning weapons that we have chosen to call "the circular technique." What we really want to achieve, though, is not just weapon positioning but a better overall organization of the defense, a different way of thinking about setting up a defense.

The main advantage to a defensive organization of this kind is that it gives a commander an opportunity to use his initiative to interfere with and confuse the enemy, something called for in AirLand Battle doctrine. He can mass his fires from multiple directions, entrap the enemy, reduce his ability to return fire, and hit him at his most vulnerable point. And when he accomplishes these things, he also surprises the enemy.

There are four key principles to follow in the circular technique of positioning weapons: mass fires, maintain mutual support, engage as many targets as possible from the flank and rear, and achieve surprise fire.

Most commanders know that they should mass fires and provide mutual support, but using flank and rear engagements extensively may be something new to them. There are two reasons for these kinds of engagements: To take advantage of the vulnerabilities of armored vehicles and to reduce the enemy's return fire. Most soldiers (enemy and friendly) tend to focus their attention in the direction in which they are facing or traveling. When the enemy is engaged from multiple directions, he tends to return fire in the direction from which he has observed the

opposing fire (often to his front).

Engaging the enemy from multiple directions also helps achieve surprise fire, another key principle. When fire control techniques, such as target reference points (TRPs), are used to mass fires suddenly, the enemy is surprised. If the enemy suffers heavy casualties at the same time, he is not only shocked, he also has fewer weapon systems with which to return fire. It is under these circumstances that a task force has the greatest chances of destroying the enemy and accomplishing its defensive mission.

To surprise an enemy force with massed, mutually supporting fires from multiple directions, a unit must keep that force unaware of its detailed plans. Warsaw Pact forces are likely to use division reconnaissance teams (DRTs) to gather information on their opponent's activities. Therefore, our commanders must do their best to locate and capture the teams, even though it may not be possible to detect and eliminate all of them.

Instead, a commander should try to mislead the enemy as to his units' final dispositions and at the same time prepare to concentrate his forces by repositioning them at the proper moment to cover the avenues of approach he has invited the enemy to take. His command can better achieve its goals by preparing supplementary positions from which to engage the oncoming enemy force.

Most of a task force's weapon systems should occupy supplemental positions for lengthy periods where it least wants the enemy to come (hopefully discouraging him from these avenues and encouraging

him to come into the task force's prime engagement area). The weapons should also spend some time at other supplementary positions but avoid the primary positions from which they will employ rear and flanking fire. (Exceptions would be when preparing the positions and range cards—usually by single vehicles—and during dry fire and repositioning rehearsals.)

The weapons should occupy the primary positions at the critical moment in the battle. Determining the critical moment will depend upon the soldiers' ability to reposition (as tested during the rehearsals) and upon the enemy's inability to adapt his plans to the task force's actions (as an estimate, two hours before his expected line of departure time).

We have developed six steps for employing the circular technique of weapon positioning:

**Step 1.** Identify the engagement area (EA) where the enemy will be especially vulnerable to massed, mutually supporting flank and rear fires.

**Step 2.** Draw a series of circles around the EA at the maximum effective range of the weapons.

**Step 3.** Analyze the terrain and the enemy avenues of approach to determine suitable weapon positions. Analyze the suitable portions of each arc for positions that would place the most fires on the EA.

**Step 4.** Adjust the proposed positions to maintain command and control, ease of supply, and the like.

**Step 5.** Position each weapon on the ground, prepare range cards, fighting positions, and so on. Inspect each position and then conduct a rehearsal.

**Step 6.** Adjust on the ground the weapons that were unsatisfactory during the rehearsal, prepare the new range cards and fighting positions, and conduct a final rehearsal.

These six steps are taken along with the usual procedures in establishing a task force defense. Using as an example a task force with M60 series tanks and M113 armored personnel carriers, we will illustrate the process.

The first step of identifying the primary EA is taken during the intelligence preparation of the battlefield (IPB) process (Figure 1). As we identify the EA, we

will also perform other tasks in our analysis of the terrain. For instance, we will look for the best location for obstacles (one that will encourage the enemy to take the lines of least resistance on the avenue we want him to take). Another task will be to consider where to place our indirect fire support to inflict

casualties on the enemy if he chooses to breach the obstacles.

The second step, which involves drawing circles at the maximum ranges of the weapons, is a little new. The circles define the outside limits of each weapon system. Their actual locations, however, should be determined more by the terrain

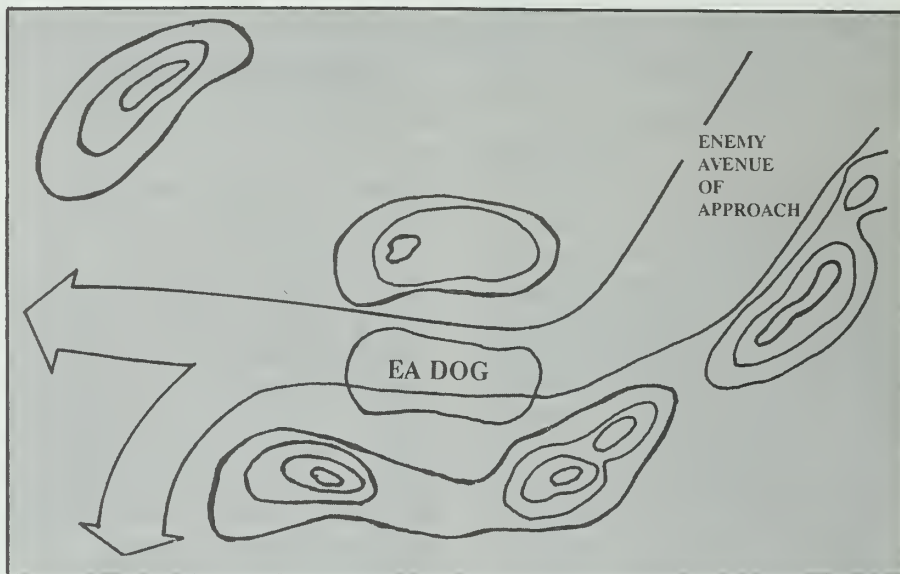


Figure 1

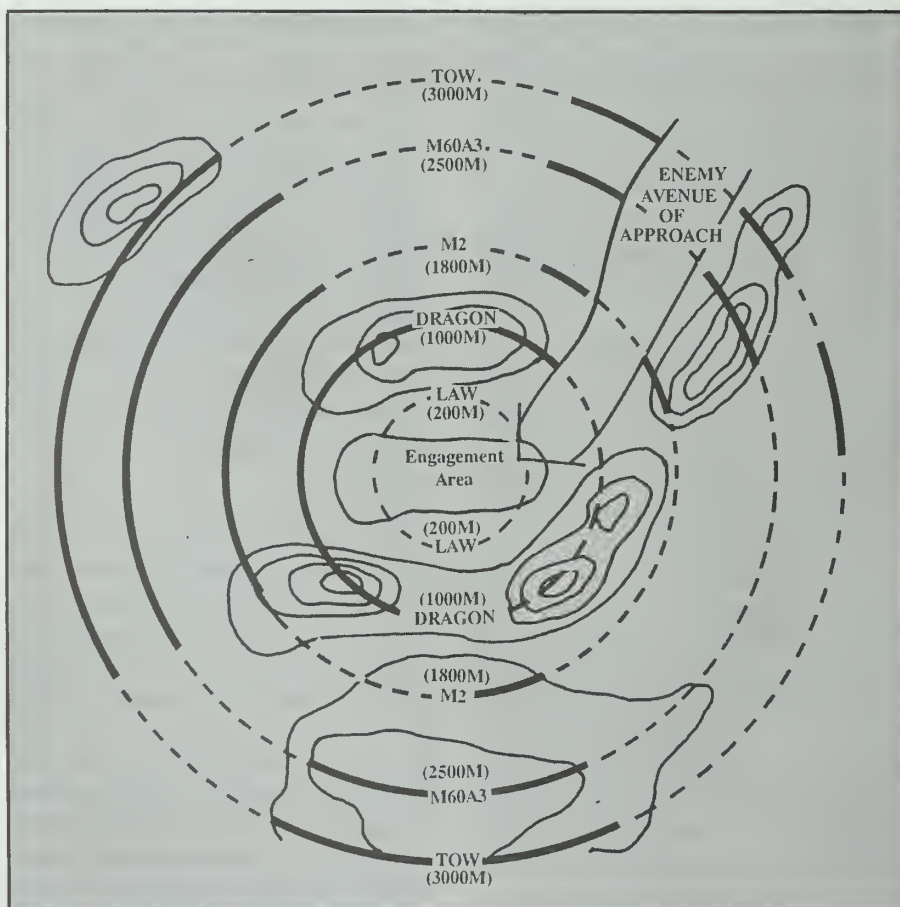


Figure 2



and the probability of achieving surprise than by the maximum effective range.

Figure 2 shows a series of circles drawn around our hypothetical primary EA—DOG. The circles delineate the farthest out each of these systems can reasonably be employed—200 meters for the LAW, 1,000 meters for the Dragon, 1,500-1,800 meters for the M2 .50 caliber machinegun, 2,500 meters for M60 series tank, and 3,000 meters for the TOW. (The maximum effective range for M1 tanks and M2 Bradley fighting vehicles would be 2,000 to 2,500 meters for the 25mm chain gun, 2,800 meters for the M1, and 3,750 meters for the TOW II.) Clearly, the avenue through EA DOG is the approach we want the enemy to take. For this reason, we must invite him to choose this route over any others in the sector.

This also implies that we must reposition our weapons in time to fire into this EA. Because it will be difficult to reposition them again once they are configured around the EA, we must have a high degree of confidence that the enemy will take this avenue and that we will be able to surprise him when he does.

Also in Figure 2, we have analyzed the terrain (primarily for the avenue of approach into the EA that we want the enemy to take) according to Step 3 and have darkened the arcs in the areas that are suitable for weapon positions. We do this because some terrain may not be usable, and the positions directly in the path of the enemy approach may be untenable. Step 3, when coupled with the adjustments of Step 4 for maintaining command and control and ease of supply, develops into a wargaming process to determine the best possible weapon positions.

After conceptually positioning the weapons as called for in Step 3, we may then find it necessary to group platoons for command and control in a way that precludes the use of some of the positions we had tentatively selected (Step 4). After this process, we should be able to take Step 5, in which each of the weapon systems is positioned, range cards are prepared, and fighting and survivability positions are prepared.

The last part of Step 5 is to rehearse firing from the positions. We should con-

duct this rehearsal by driving a tactical vehicle along the enemy avenue of approach while our weapons are manned and sighted on the vehicle. Dead space can be identified, range cards checked, and command and control procedures verified. Since some weapon systems may be facing each other on opposite sides of the EA, it is critically important to work out coordination among these units to preclude fratricide.

We should also rehearse the repositioning that we will most likely have to do before the enemy takes our selected avenues of approach, and include indirect fire rehearsals at the same time. Most important, during this rehearsal we will convey the commander's intent to the soldiers and their leaders.

Figure 3 shows a way to defend the EA with the circular technique of positioning. We have weighted this part of the task force sector with two company teams (one tank heavy and one mechanized infantry heavy) and the antiarmor company. The dismounted elements of our two company teams are located close to the EA so that they can use their portable antiarmor weapons and make it diffi-

cult for the enemy to breach our barrier system.

To prevent tipping our hand to the enemy, we should probably prepare the obstacles at the west end of EA DOG last, preferably during the hours of darkness. Team A (Tank) should position its mounted elements (M60 tanks and M113 armored personnel carriers) on another avenue of approach or forward as part of the security (counterreconnaissance) force until shortly before the attack is expected. Team A's dismounted elements may assist by emplacing the barrier and preparing Dragon positions on the north side of EA DOG.

Team B (Mechanized) could be positioned as shown or in a position nearby. Team B's dismounted elements could be employed with Dragons on the south side of EA DOG and on or near the barriers to thwart breaching efforts. Again, because Team A's troops are particularly endangered by the fires of Team B, and their fires may also cause Team B problems, these elements will need to coordinate their fires carefully.

The antiarmor company could employ one platoon on the hill northwest of EA

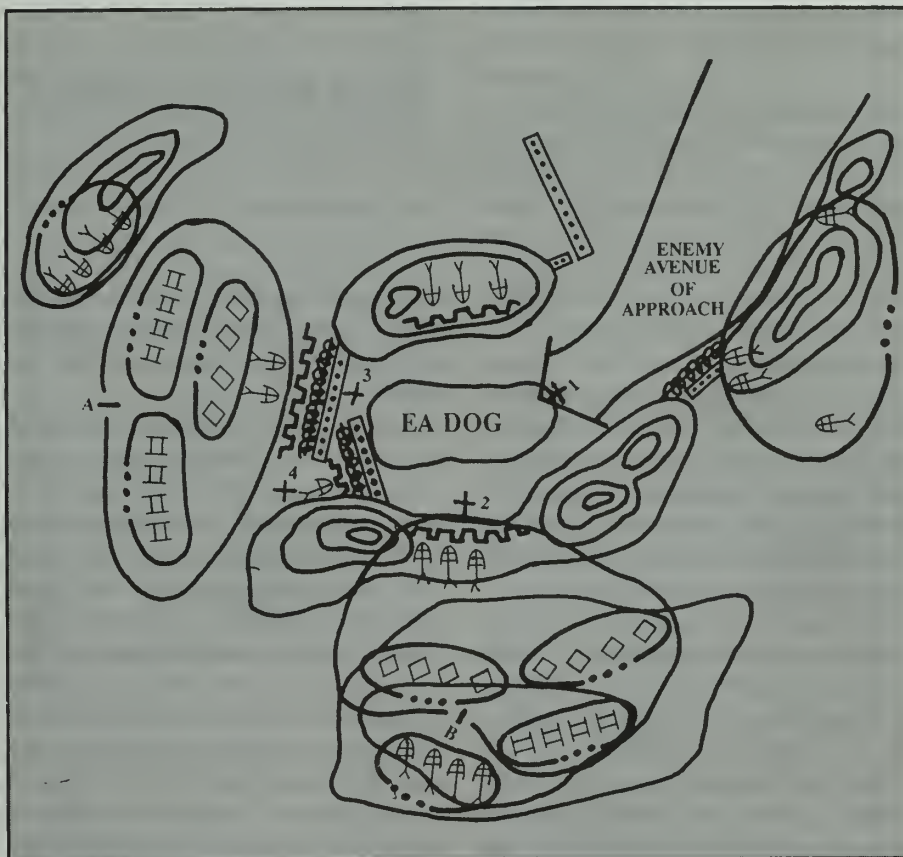


Figure 3

DOG to fire into that killing area at long range. A second TOW platoon could be emplaced to the south on the hill with Team B's tanks. The third TOW platoon could occupy the hill northeast of EA DOG and in the low ground southeast of the hill. Since it is the least likely to be detected, this last TOW platoon should do the most damage.

To achieve surprise fire and to control our own fires, we have designated four TRPs. TRP 1, at the east end of EA DOG, marks the point where our fires begin when the enemy arrives. TRP 2 may be used at the task force level to mass fires if the enemy attempts to breach or bypass our obstacles. TRP 4 is the final exit for the enemy from our series of obstacles or a location where he could be constrained and targeted.

Our order directs Team B to engage the enemy from TRPs 1 to 3 and to be prepared to mass fires on TRP 2 on order.

Team A should synchronize its internal fire control by engaging the enemy from TRPs 1 to 3 with the south tank platoon firing on the lead enemy elements and the north platoon firing on the trail elements. Team A would also place heavy fire on the enemy between TRPs 3 and 4.

The antiarmor company would be directed to fire on the enemy between TRPs 1 and 3 and to mass fires on TRP 2 on order. The first and third antiarmor platoons would be directed to fire on the enemy between TRPs 3 and 4.

In this example, we have demonstrated a thought process that can be used to implement tactically the tenets of Air-Land Battle doctrine at a heavy task force level. This technique emphasizes retaining the initiative and interfering with and confusing the enemy.

The destruction of the enemy can best be achieved by using the four key principles and positioning weapon systems

around the killing zone from which the task force can achieve surprise and mass its fires from multiple directions (primarily from the flank and rear) from mutually supporting positions arranged in depth. Our experience has shown that this approach can work well.

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**Lieutenant Colonel Pierce T. Graney, Jr.**, now Commander, Operations Group, Combat Maneuver Training Center in Germany, was formerly commander of the Mechanized Infantry Combat Training Team at the National Training Center. He recently completed the Army War College and is expected to assume the command of a brigade in August 1989.

**Dr. Robert H. Sulzen** is the team leader of the Army Research Institute-National Training Center Research Team. He is also a colonel in the U.S. Army Reserve with 11 years of experience training with tactical engagement simulations. His article "Winning with Tactical Engagement Simulation" appeared in the May 1987 issue of *Military Review*.

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# Writing Efficiency Reports

MAJOR HARRY D. STUMPF

Writing efficiency reports is a big part of the job of every officer and noncommissioned officer. Since these reports will stay in the rated soldiers' files forever, and since they will be influential in the selection of soldiers for promotion, they deserve the most careful attention. In addition, their quality reflects not only upon the rated soldiers but also upon the professionalism of the writer and his unit.

In my battalion, the 1st Battalion, 36th Infantry, we have come up with some guidelines for writing reports that have proved successful. These guidelines may also be useful to other units.

First, the standard for reports in the battalion is high and uniform—the same for a corporal and for a colonel. That standard is to produce a meaningful

report with a correct narrative, to submit it on time, and to see that it contains no mistakes. There is no allowance for error.

A meaningful report must begin with an accurate duty description, because this area becomes a discriminator in selections for promotion. The duty description block is often a significant problem, however, because the same duty position in adjacent companies or platoons is frequently described much differently. FMs 7-70 and 7-71 provide some good guidelines for infantry duty descriptions at all levels with references for all military occupational specialties (MOSs). The best overall reference for duty descriptions is AR 611-201, Enlisted Career Management Fields and Military Occupational

Specialties. It is on hand in the battalion personnel actions center (PAC).

A duty description should be developed by both the rater and the rated soldier at the beginning of the rating period. This is required for officer efficiency reports, but it is equally important for enlisted efficiency reports. When a soldier is involved in describing his duties, he has a clearer understanding of what those duties are.

At the same time, duty descriptions should be tailored to the individual to some extent. The exact duty description of the incumbent, although it can be used as a guide, will not necessarily be appropriate for his successor. Additional duties, personal strengths and weaknesses, personalities, the training schedule,



and other influences affect the duty descriptions of otherwise identical positions.

One requirement on a duty description that may not be suggested in the references is that some battalions, such as ours in Germany, have immediate mobilization requirements. Similarly, a light division or the 82d Airborne Division in the continental United States should include a parallel statement in its description that the soldier must be available for immediate worldwide deployment.

## VARIETY

The indorser on a report should try not to say the same things the rater has said. If he does, he might at least say them differently or from a different perspective. Using the same words makes both individuals look bad. Whenever possible, the rater and the indorser should try to use different events, characteristics, and qualities.

Results of the Army Physical Readiness Test (APRT) and height and weight data must be entered on efficiency reports; if it is not (or if the entry in either area is not passing), a comment in the rater's block is mandatory. Often good soldiers either do not meet the height and weight standards (but pass the body fat test) or do not have a current APRT score because of a legitimate profile. A rater, in writing his narrative, should be sensitive to an NCO who has a shortcoming in one of these areas.

If a first sergeant, for example, is outstanding, leads his company PT regularly, but has not had a PT test for a good reason, the rater should try not to close his comment with a blank, meaningless statement. Instead, he might put his mandatory comment in the middle of the block and word it something like this, "In spite of setting a high standard in physical fitness and routinely leading the company in physical training, First Sergeant \_\_\_\_\_ is exempt from the APRT because . . . ." An overweight but muscular soldier who passes the body fat test should be treated the same way.

A continuing source of trouble is "change-of-rater" reports. A change-of-rater report is due not only when a sol-

dier's rater changes but any time the soldier is reassigned within the unit (unless his annual rating is due). Most enlisted reports, in fact, are change-of-rater reports.

A unit must be sensitive to initiating a change-of-rater report every time a leader is reassigned, whether within the unit or to another unit. Thus, a squad leader who is reassigned to take over another squad or platoon must prepare change-of-rater reports for his team leaders. And a platoon leader reassigned from a rifle platoon to a heavy mortar platoon must prepare a change-of-rater report on his platoon sergeant.

Because annual ratings are usually on a computer that reminds raters when they are due, they are under better control. But computers are not foolproof, and a rater should also know when an annual rating is due on every soldier he rates.

In writing a report, the rater, indorser, and reviewer should pay attention to certain details of style and correctness. The following are a few guidelines:

- Be careful in using acronyms—APC, SAW, PMCS, ITV, USAREUR, ARTEP, HMMWV, SSP. While most people know what NCO means, they may not know what SSP means, including members of a promotion board. Before using an abbreviation or an acronym on an efficiency report, think carefully whether it will be understood or not. If it is not completely clear throughout the Army, write it out: "semi-annual service program (SSP)." Keep in mind that what may be clear within a battalion may not be so clear to the members of a promotion board. It is just as easy to say, for example, that a soldier is assigned to "a company in Europe" as to say "a company in USAREUR."

- Do not capitalize too much as we in the Army tend to do. Even "infantry" should not be capitalized when it is used in the duty description block. Neither should a word such as "battalion" be capitalized except when it refers to a specific battalion—"1st Battalion, 36th Infantry." It should be simply "the battalion" in subsequent references. And when writing about the officer in charge of a company or a battalion, refer to him as "the commander," not "the Commander."

- Spell out numbers less than ten, but express numbers 11 and above in arabic numerals. There are exceptions, of course, as in the designations of vehicles or weapons, and in other instances for various reasons. For example, "The maintenance team leader is responsible for one jeep, two M35A2 trucks, eight M923 trucks, two M901 antitank carriers, and sixteen M113A2 armored personnel carriers." The "sixteen" is spelled out here for consistency with the other numbers that are used the same way in the sentence.

- A company in a battalion is often referred to in various ways—sometimes "Alpha Company," sometimes "A Company," and sometimes "Company A." On efficiency reports, "Company A" is preferred.

- Watch out for apostrophes. They should not be used, for example, with abbreviations or acronyms that are made into plurals—"two NCOs." When an abbreviation is possessive, however, the apostrophe is used—as in "The NCO's platoon. . . ." Apostrophes are not used in possessive pronouns—*his*, *her*, *their*, *its*, and the others. Frequently, however, *its* (no apostrophe) is confused with *it's* (with apostrophe), which is the contraction for *it is*.

- Watch spelling. Few of us are good spellers, but a report loses some of its credibility when it contains misspelled words. The raters who spell the best are those who have been at it the longest and who look up words when they are in doubt.

## USE REFERENCES

There is no substitute for a dictionary, a style manual, a thesaurus, experience, and plain hard work in preparing satisfactory ratings. And if a rater knows a few areas such as these in which there are repeated shortcomings, he can avoid making the same errors and concentrate on making meaningful comments.

Raters, indorsers, and reviewers must also pay attention to the way they prepare their draft reports. Both the drafts and the final copies of efficiency reports are put into proper format and typed by the battalion PAC. But the typists type what

they see. If the draft comments from a company are illegible, misspelled, or incomplete, that is what will appear on the output back to the company. It saves time to give the PAC a good product to start with, so that retyping can be kept to a minimum.

If a rater's input is provided in long-hand, it should be on lined paper, not on a blank evaluation report. Too often, a typist has to try to decipher handwriting that has been crammed into the blocks on a blank form.

Occasionally a rater is so eager to write the best possible remarks that he writes too much, and when the form is typed the remarks block is so crowded that it is hard to read. This defeats the rater's purpose of praising the soldier. A rater should say what needs to be said and stop.

Everyone who must sign a report (rater, indorser, and reviewer) should proofread the same draft report and make corrections before it is prepared in final format. For an enlisted efficiency report, this technique takes advantage of three pairs of eyes to catch all the mistakes and make all the corrections at the same time. If the corrections are made separately

after each person reviews it, the report must be retyped three times instead of one. Each retyping delays a report and the length of the delay is extended by the time it takes to track down the different people who must sign it again. The same holds true for officer reports, although most such reports are signed by two people, the rater and the senior rater.

If an indorser does not want the rater to read his comments, the indorser can be shown the rater's corrected draft. The reviewer is going to see everyone's comments eventually, though, and it is best if he can edit the earlier draft without having it retyped. The reviewer should at least see the first typed, corrected draft, and then signatures should be obtained only after each section is retyped.

An excellent aid in preparing efficiency reports is a home computer. More and more people are getting computers, especially senior NCOs and officers, the same people who are most involved with efficiency reports. The ease of editing, spell checking, and legibility provided by a word processor make it much more effective in supporting good writing than handwriting on lined tablets.

Two more benefits of the word proces-

sor are its file storage and "cut and paste" capability. Once an efficiency report (or any other document) is on a disc, it is available for further use or reference. Cut and paste allows a rater to take well-written duty descriptions (or awards narratives) and transfer them to another document without rethinking and retyping. And if a rater's input is somehow lost, he can easily print out another copy. (In the past couple of years, the U.S. Military Academy has required every cadet arriving at West Point to purchase a "home" computer.)

Since we can't escape writing efficiency reports, we must tackle them and expend the effort necessary to do them correctly the first time so we can get on to other things. We owe professional appraisals to our soldiers. We also owe them to the Army, and particularly to the people who must make decisions on those soldiers' promotions and assignments.

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# The Warrior Spirit In The Reserve Components

LIEUTENANT COLONEL DUNCAN M. THOMPSON

The "Warrior Spirit," along with the "Warrior Ethic," is an ingredient that is essential to a soldier's overall mental and physical commitment to accomplishing his mission and surviving on the battlefield. While some soldiers may have been born with the Warrior Spirit, most have to learn it through experience and association with professional soldiers, through

membership in well-disciplined and well-trained units, and through tours of duty in combat assignments.

If our soldiers are to survive on the battlefield and accomplish their assigned missions under the constant stress of battle, tactical skills must become instinctive. Soldier technical skills and the Warrior Spirit are the most important

requirements for the Reserve Component (RC) soldier, regardless of rank or position.

Until now, the expectation has been that when he put on his uniform the "civilian" underwent a mental transformation and became a soldier; that was the best we expected of him. This can no longer be an acceptable standard. In light





of the growing importance of the Reserve Components and the Army's increasing reliance upon them for national defense, our RC soldiers must now maintain the Warrior Spirit, and the Warrior Ethic, all of the time. Our mobilization and readiness mission requirements today call for a "come as you are" capability. We can no longer expect to have an abundance of training time to get ready for war.

Realism in training is essential to the task of instilling the Warrior Spirit in our soldiers. This kind of training (conducted within safety requirements, of course) will help prepare soldiers to perform their duties and responsibilities under stressful conditions and in a lethal environment.

Commanders and leaders must ensure that field training exercises (FTXs), no matter what the missions or goals may be, are conducted within Army doctrine and standards and always in a tactical mode. This includes requiring soldiers to conduct field training with full combat loads and individual weapons and requiring units to operate with their organic tactical equipment and crew-served weapons. Improvements in the use of individual and crew-served weapons during FTXs will promote the Warrior Spirit and will help make sure that each soldier becomes intimately familiar with the

basic tools of his trade.

Leaving tactical equipment and weapons at home stations in Army Reserve Centers and National Guard armories retards a soldier's familiarity with his equipment and individual weapon. This, in turn, reduces a unit's effective combat power. A soldier's basic instinct must be the care, cleaning, maintaining, and effective use of his weapon, and weapons left at home serve no useful purpose.

Unit commanders and leaders must continually review their tactical standing operating procedures (TACSOP) to make sure the procedures conform to current Army doctrine and provide those actions needed for mission accomplishment and soldier survivability. Collective and individual tactical training procedures must be kept current and must be practiced consistently.

Commanders and leaders must also make sure their soldiers perform to the standards of the unit's TACSOP during all field training exercises. Battle drills and situational training exercises derived from the TACSOP must be consistently conducted to ensure that individual soldiers and units can operate within the dictates of the TACSOP. Soldiers must be skilled in performing their duty military occupational specialties (MOSs), which

means they have both the technical competence and the tactical skills they will need on the battlefield.

Learning the overall skills of fighting is a never-ending process. Each soldier, Active or Reserve Component, must have the ultimate goal of "Train to Fight" and "Fight to Win." This is the Warrior Spirit.

If the Warrior Spirit is instilled in soldiers, the result will be a well-disciplined and well-trained unit. Soldiers who are not trained and disciplined will doom the unit and themselves to mission failure and death.

Finally, the philosophy of caring for the soldiers must include the idea that commanders and leaders are responsible for training them to the standards and for making their training meaningful, challenging, and productive. Gaining and maintaining the Warrior Spirit is the standard; nothing less can be acceptable.

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# Extra Magazine Pouches

MASTER SERGEANT DAVID A. PILS

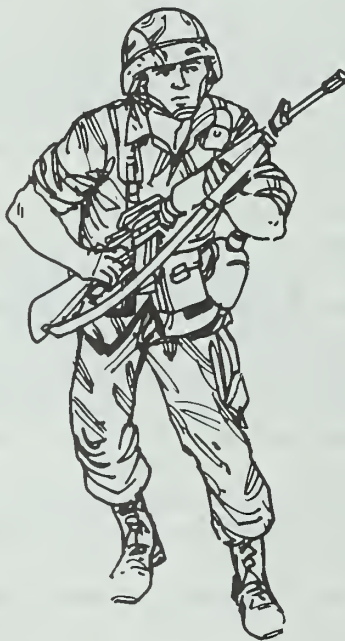
Light infantrymen presently carry two magazine pouches on their load carrying equipment (LCE). I believe they should carry two extra magazine pouches, one as a first aid pouch and the other as a smoke grenade pouch.

Even when wearing kevlar helmets and vests, light infantrymen are particularly vulnerable to artillery, rocket, and grenade fragments, as well as to small arms fire. In battle, many soldiers would receive multiple wounds, some of which might require more than one field dressing. Small arms fire, for example, often causes separate entrance and exit wounds. Also, when a field dressing becomes saturated with blood, another dressing is required to reinforce it. When a field dressing becomes rain-soaked, another dressing must be used to replace it.

Having treated a variety of wounds, I consider four field dressings per soldier a realistic number, but we currently distribute only one dressing per soldier and expect our medics to carry all the additional dressings needed. There are some problems with this. Because the mortality rate for combat medics is worse than for infantrymen, there might often be only one medic for two platoons. Because of everything else medics must carry, they usually carry no more than 20 field dressings. Besides, it is especially hard to locate casualties during night operations; wounded soldiers may be on their own and have to provide their own dressings.

With the nylon straps removed from the inside, a 30-round magazine pouch makes a good first aid pouch. It can hold four field dressings standing upright, with a triangular cravat bandage stuffed up under the top flap. The pouch,

together with the M9 bayonet, take up about the same width on the pistol belt as the Number 8 medical instrument and supply set. The 30-round magazine pouch can carry additional medical items as well, such as two extra bottles of water purification tablets, two half-ounce bottles of povidone-iodine 10% solution, two packages of bandaids, and a tin of foot powder.



The second magazine pouch would keep smoke grenades more readily accessible for use in marking a unit's location for close air support and for marking helicopter landing zones. It is awkward to carry smoke grenades exposed, and they are not readily accessible in the bottom of the rucksack.

Again, with the nylon straps removed from the inside, the 30-round magazine pouch makes a good smoke grenade

pouch. The tall cardboard canister that smoke grenades are shipped in makes a good liner to prevent a smoke grenade from rattling around inside the magazine pouch. There is also room in the pouch for another triangular cravat bandage stuffed up under the top flap, and room in the inside corners for two 30-minute high intensity chemlights (NSN 6260-01-074-4230) for marking night helicopter landing zones.

For special operations, ABC-M7A3 CS grenades (DODAC G963) could be carried in the pouch instead of smoke grenades for breaking contact and discouraging pursuit. Infrared chemlights (NSN 6260-01-195-9752) could be carried instead of high intensity chemlights for marking night helicopter landing zones.

The pouches that contain magazines should be carried in front so that the heaviest items—loaded magazines and fragmentation grenades—hang directly under the field suspenders; this also makes them easy to get to.

The first aid and smoke grenade pouches should be carried to the left and right of the magazine pouches. Unit SOPs should identify which sides they should be worn on and how they should be marked.

I believe these two extra pouches would be an efficient way for a light infantry soldier to carry additional, and often vital, items.

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# peacekeeping

## OPERATIONS

*EDITOR'S NOTE: This article represents the views of the author and does not necessarily reflect the official opinion of the Army-Air Force Center for Low Intensity Conflict, the*

*Department of the Army, or the Department of the Air Force. The article has been cleared for public release by security and policy review authorities.*

One of the four categories of missions a unit involved in a low intensity conflict (LIC) may be called on to perform is peacekeeping. The task of a peacekeeping force is to support diplomatic efforts to achieve, restore, or maintain peace in an area of potential or actual conflict. To accomplish this non-traditional mission, a peacekeeping force uses its conventional military skills.

The United States has participated in a number of peacekeeping operations in the past. Most of its involvements, however, have been in the form of indirect action in support of United Nations (U.N.) efforts and the use of military personnel as observers. Recent experiences, though, such as those in the Sinai, have caused the U.S. to reanalyze its role to determine the exact nature of such operations and the most effective methods of conducting them in the future.

A review of the force structure of all U.N. peacekeeping operations shows a heavy preponderance of infantry-type units, augmented by support personnel. A battalion size unit has been the standard, a logical decision considering that a battalion is the smallest fully staffed, self-contained unit. It is therefore important for infantry commanders at battalion level and below to understand not only what their role might be in such an operation but also the overall concept of peacekeeping.

First, peacekeeping operations take place following diplomatic negotiations and agreement among the participating nations on the size and type of forces each will contribute. These

operations are then conducted in accordance with agreements among the parties to the conflict. Thus, U.S. participation might include tactical units or might be limited to individuals assigned to observer groups.

Essentially, peacekeeping operations are intended to interpose between the combatants an uncommitted, non-aligned third party whose task is to keep them separated and prevent further acts of war.

While all military operations have some political aspect, peacekeeping operations are more deeply influenced by the political environment. The fundamental difference is that a peacekeeping force acts on behalf of all the parties to a dispute—at their invitation with their consent—and therefore must carry out its mission if possible, without using force except for self-defense.

Not surprisingly, intervention in such conflicts tends to be a lengthy process. A peacekeeping force can “manage” a conflict; it can quiet things down; it can lower the level of hostility; it can prevent further loss of life and damage to property but it cannot, of itself, resolve the problems that caused the conflict.

### Principles

In order for a peacekeeping force to accomplish its mission, certain principles must be understood and observed. The force

must have the following:

- The consent of the belligerents.
- The political support of a portion of the international community.
- A clear, restricted, and realistic mandate or mission.
- Enough freedom of movement to carry out its responsibilities.
- An effective command, control, and communications system.
- Well-trained, balanced, impartial, non-coercive forces.
- An effective and responsive all-source intelligence capability.

It is important for the commanders of such forces to understand how political factors influence the tactical execution of peacekeeping operations. Specifically, the political process mandates the rules of engagement (use of force), freedom of movement, and area of operations (AO). A tactical commander must comply with instructions and inform his chain of command concerning the tactical implications of a political decision.

The rules of engagement must be clearly stated in simple language. The two principal rules are to use a minimum of force and to be totally impartial. The use of deadly force is justified only in situations of extreme necessity—typically, only in self defense—and as a last resort when all lesser means have failed to curtail the use of violence by the parties involved.

A peacekeeping force operates with a mandate that describes its scope of operations. The sponsoring bodies usually consist of several countries. Although these countries are supposed to be impartial, each may have its own idea of what the force should do. The final agreement, therefore, should frame the mandate for the peacekeeping force in such a way that neither belligerent is given an advantage.

The designated executive agent for the U.S. Department of Defense publishes terms of reference (TOR) that govern U.S. participation in a peacekeeping operation. These describe the mission, command relationships, organization, logistics, accounting procedures, coordination and liaison, and responsibilities of the U.S. military units and personnel assigned to or supporting a peacekeeping force. From the point of view of the units, these terms of reference are often far less precise than the commanders may desire.

A commander must continually emphasize the neutrality of the force. This means avoiding casual contact with the units and personnel of the belligerent parties, because such contact could result in accusations of favoritism from one side or the other. And if the peacekeeping force loses its position of neutrality, its usefulness is seriously diminished.

Contact between the various contingents that make up a peacekeeping force does pay dividends, however, in terms of cohesion and interoperability. This can be achieved through small unit exchanges, inter-contingent competitions, conferences, and social events.

## Preparing the Force

Individuals and units that are assigned peacekeeping duties

need training in various skills and techniques before their deployment, but an urgent need to deploy a force to establish a cease-fire sometimes overrides the need to make adequate preparations.

In most cases, and with good prior planning, a training program can be developed that will help units prepare for these missions. Good leadership is important at every level, from the unit commander to the most junior leader; the situation facing the unit will require the utmost skill, imagination, flexibility, adaptability, and patience on the part of all concerned. The training program must emphasize basic military skills in a field environment and should also include collective training for small units.

At the least, a training program should cover the following skills:

- Operating checkpoints and observation posts.
- Patrolling.
- Map reading.
- Weapon and equipment identification.
- The culture, language, habits, religion, and characteristics of the local people.
- Environment survival classes.
- Knowledge of first aid.
- Civil disturbance training.
- Rules of engagement.
- Search and seizure techniques.
- Legal considerations.
- Recognition of armored vehicles and equipment.
- Airmobile operations.
- Explosive ordnance recognition (primarily landmines).
- Field sanitation and hygiene.
- Communications.
- Civil-military operations.

Whenever possible, a unit should also have specific, mission-oriented training before it deploys. At the core of all training is the need to orient the members of a unit on the proper conduct of operations, either as part of a multinational force or as a unilateral force. The unit leaders must clearly understand the unit's place in the force, its objectives, and the implications of its presence as part of the force. The highest degree of unit discipline must be obtained and then maintained throughout the course of the mission. Members of the unit must also understand that they will be the target of foreign intelligence activities. A good counterintelligence program is desirable, one that includes an emphasis on communications security.

The observation and reporting functions of a peacekeeping force are its primary tasks. Because violations of an agreement, for example, may not be obvious to a soldier on the ground, the training must emphasize the importance of accurately reporting everything that is observed. When routine reports are accumulated at force headquarters, they may form a pattern of activity within the zone or sector. Variations in this pattern, then, may provide clues as to changes that may eventually constitute treaty violations.

Soldiers should know the standard reporting formats, including situation reports, shooting reports, overflight reports, and aircraft sighting reports. Training in recognizing armored vehi-





**The observation and reporting functions of a peacekeeping force are its primary tasks.**

cles and equipment should include all available graphic training aids—35mm slides, scale models, and flash cards.

Training in operating an observation post (OP) is essential. Small units must learn the layout of typical OPs and checkpoints and the general daily routine of duty on an OP. Such a unit may be required to live and work on an OP, isolated from its larger parent organization, for many days at a time. It may also have to share the OP with soldiers from other countries, which can add to the overall complexity of the situation.

Security procedures at an OP include a stand-to at BMNT (beginning morning nautical twilight), or just before sunrise, and at EENT (ending evening nautical twilight), or just after sunset. Perimeter patrols should be sent out to sweep the area immediately after a stand-to.

Soldiers who will man checkpoints astride major roads have to be taught to slow and observe traffic without stopping it. This will enable them to observe and report the traffic passing from one zone to another. In addition, they will have to stop vehicles and personnel leaving and entering installations and search them for contraband and explosives. Soldiers must therefore learn not only how to search but how to search courteously without undue force.

Communications are an essential part of knowing what is going on and being in a position to influence events. It is difficult to solve the problem of providing adequate communications for the force before it is deployed, though, because so

much will depend upon the circumstances of the operation. In one theater, the difficulty may lie in the great distances involved; in another, or possibly in a different part of the same one, the difficulty may be screening in urban areas. Normal military communications are unlikely to be adequate, because they are designed for a totally different kind of troop deployment.

Training in the proper conduct of reconnaissance patrols must be reviewed and reinforced. The organization of patrols, the selection of patrol routes, and the patrol debriefing format must be taught. Land navigation principles and road marches can be integrated into this training. (Stealth and concealment are not as important, because the mission itself stresses the presence, reliability, and visibility of the peacekeeping force.)

Explosive ordnance training is important, and a local explosive ordnance disposal detachment can provide it before a unit deploys. This training should familiarize the soldiers with different types of land mines—not only Warsaw Pact mines but also French, British, German, and U.S. mines—and should teach them to recognize, mark, and report all mines. The training should stress the fact that land mines, no matter how old they appear to be, are not necessarily inert, and might also include how to extricate oneself from a minefield.

Environmental and survival training is hard to conduct outside the actual environment, but this training must at least intro-

## PEACEKEEPING EXERCISE

### List of Activities

- When and how to use force.
- How to treat people seeking protection within a U.S. post.
- How to act when armed groups request the extradition of people under U.S. protection.
- Normal alert, increased alert, and full alert procedures.
- Patrolling.
- What to take on patrol. (ID card, recognition signals.)
- How to act when someone fires upon a patrol. (Use only small caliber weapons, shoot high, and use less ammunition than the other party.)
- How to choose a location for a blocking position or road block.
- What to do with seized weapons.
- Procedures for stopping vehicles and people.
- The use of a road block.
  - To check a vehicle—only one POV within the road block at the same time.
  - Conduct all checks under cover of other weapons.
  - How to check a loaded van or truck in a separate location.
  - How to check liaison officers and their vehicles.
  - How to inspect a privately owned vehicle. (Systematic approach, the use of mirrors, flashlights; how to check gas tanks, spare wheels.)
  - How to check people. (Use a scanner without observation by other civilians. Never touch women.)

duce subjects that can be reinforced after the force deploys into its operational area.

Transporting personnel and supplies will be a challenge for a unit occupying a large sector. Air transportation by helicopter will be important, so a unit's training program should include instruction in such airmobility techniques as load planning, pathfinder techniques, and sling loading. Since units will often deploy by air into and out of OPs, the soldiers must know how to stow their equipment aboard a helicopter. Training in initial ground control procedures for incoming helicopters is also important, as is maintenance on aircraft and ground vehicles.

And finally, all leaders should undergo language instruction that exposes them to some of the more common words and phrases of both the host country and the other countries assigned to the peacekeeping force. All personnel should receive training on the customs of the local populace.

The climax to pre-deployment training should be a peacekeeping exercise. This exercise should include establishing observation posts and checkpoints in a field environment and having the unit conduct operations as if it were in an actual peacekeeping situation. (A list of activities to be included is shown in the accompanying box.)

Each small unit should be required to observe and report as they would in an actual situation, and leaders should become



A pre-deployment peacekeeping exercise should include establishing observation posts and checkpoints in a field environment.



thoroughly familiar with the reporting formats. Normal ground and air traffic from other units moving about in the training area could provide the incidents to report.

A rotational type of exercise might be used to focus the training on communications and reporting procedures, fire prevention, maintenance and operation of electrical generators, improvement of fighting positions, reporting of visitors, resupply operations, and the general layout and routine of an OP. Physical training, individual training, stand-to, and other functions could be conducted, and drivers should go through an orientation of different types of driving conditions over a driving course.

At the same time, a standardized briefing for official visitors should be developed.

Once in the area of operations, a unit may not have time for anything other than orientations and reinforcement training from the unit it is relieving. In addition, training in the area of operations may be restricted by whatever agreement exists between the parties involved in the dispute. Training must therefore be organized, planned, and conducted before deployment on the basis of the time and resources available. *(A detailed peacekeeping checklist is available by request to Editor, INFANTRY, P.O. Box 2005, Fort Benning, GA 31905-0605.)*

## Operations

Each peacekeeping operation is unique, but the planning, deployment, and conduct of all U.S. operations use the doctrinal procedures and techniques listed in Army Field Manual 100-20/Air Force Manual 2-20. All such operations are closely coordinated with U.S. State Department officials to ensure that a synchronized effort is made toward achieving the political objective.

The task organization of a peacekeeping force is based on an in-depth assessment of threat intelligence that considers the political realities of the area into which the force is being sent. The basic force structure, therefore, varies with the particular situations.

The commander of a U.S. unit that is involved in such an operation is ultimately responsible, however, for supervising and coordinating his missions, communicating any changes in that mission to the members of his unit, and responding to the needs of his committed units.

At times, the success of the mission may depend upon the leadership and initiative of his small unit leaders and their ability to conduct operations and maintain the health, morale, and training of their units. At his home station, for instance, a small unit leader might see only part of his unit for 12 hours a day at the most. During peacekeeping operations, he will have all

of his soldiers, plus additional personnel, all day, every day, under conditions of potential monotony.

Personal hygiene, medical self-aid, and sanitation are extremely important. Observation posts and checkpoints may be far removed from medical facilities, and widespread illness could cause the unit to fail in its mission. Human waste must be disposed of each day, and individuals have to keep themselves scrupulously clean to avoid disease, particularly of the gastrointestinal type.

A standing operating procedure (SOP) for a peacekeeping operation is a necessity. It must include, at least, reporting formats and procedures, rules of engagement, observation and checkpoint routines, and resupply procedures. It may also include vehicular and personnel search procedures, medical considerations and evacuation requests, lists of persons allowed to enter peacekeeping installations, and restrictions on contact with local forces and the populace. This SOP should include pertinent information from any area handbooks that may have been produced by the parent command.

Since the members of a peacekeeping mission are meant to be visible to all concerned, the force will be scrutinized by the local people and by the other contingents. The force must therefore reflect vigilance, readiness, and competence in its duties.

While all infantry battalions train to fight, if peacekeeping troops fight, they have essentially failed in their mission. The challenge, therefore, is to orient troops away from their war-fighting mission and toward a peacekeeping mission. The difficulty lies in developing a training program that capitalizes on individual skills and initiative and at the same time qualifies a soldier to operate in unfamiliar terrain and assume a highly visible mission that includes fighting only as a last resort.

Peacekeepers should work from simplified mission-type orders, because the complex rules of engagement under which they must operate place a great deal of responsibility on the individual.

Training for peacekeeping centers on undertaking diplomacy and mediation, suppressing unlawful assemblies, and acting in response to politically instigated or contrived situations. This is why understanding the customs and mores of a particular area is so important.

In peacekeeping, as in traditional military combat situations, a trained, disciplined, and well-organized unit can mean the difference between success and failure.

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# OFFENSIVE LIVE FIRE OPERATIONS

LIEUTENANT COLONEL RONALD F. ROKOSZ

Offensive live fire operations are absolutely critical for building confidence, teamwork, and cohesion in infantry squads and platoons. Such operations are inherently dangerous, however, and must be done right.

“Doing things right” in live fire operations does not imply that such exercises have to be unrealistically structured or hampered by excessive control mechanisms. Rather, it demands a sound, systematic process in the planning and execution of such training, as well as a strong chain of command that willingly assumes the responsibility for seeing that training is done safely. As in combat, a good unit does not make mistakes in training that will result in the death or injury of soldiers from friendly fire.

The following constitutes a common sense approach toward planning and conducting squad and platoon live fire operations:

- Live fire operations are planned in detail, after a specific task, condition, and standard has been developed.
- Those plans are briefed down to the fire team leader level in garrison.
- The battalion commander always walks the ground with his company commanders and personally approves the location and concept for all live fire operations.
- TEWTs (tactical exercises without troops) are conducted down to the lowest level possible on the ground.
- Extensive blank fire rehearsals are conducted. A rehearsal

*must* be the validation of a unit’s readiness to conduct live fire operations. Accordingly, that rehearsal must be measured against the exact training objective that will be evaluated on the live fire exercise itself. An element should not be allowed to negotiate a live fire exercise until it has performed to standard during a blank fire rehearsal.

- The training should be carried out during the day first, then at night; nothing should be changed at night except for adding the required safety measures.

The concepts for squad and platoon offensive live fire operations must be kept simple. Grandiose concepts involving sweeping maneuvers just cannot be done within the safety restrictions on most ranges. They almost always result in excessive administrative safety measures that detract from the realism a unit is trying to achieve. Of greater importance, they tend to shift the focus away from what is really important—teaching squad and platoon leaders to control their soldiers during assaults.

A training objective should be very specific, with standards that list the desired performance measures so that leaders know what is expected and can use the training objective as a checklist for preparing for an operation. (The training objectives listed in the accompanying box are examples of offensive operations that can be done safely on most maneuver ranges.)



During live fire operations, safety is a chain of command responsibility—starting with team leaders. The training objectives shown in the examples include the critical safety measures as part of the standard. That's the first step in developing safety consciousness in the chain of command. A squad leader, for example, is evaluated not only on how he leads an assault but also on his performance in ensuring that the safety requirements are met.

The fire team leaders carry cleaning rods during all exercises, plus red filter flashlights at night. To emphasize the point, their ability to accomplish safety performance measures should be practiced and evaluated against a specific intermediate objective, such as the one that follows:

**TASK:** Clear weapons.

**CONDITION:** Rifle platoon deployed in a hasty defense

with organic weapons. Each fire team leader has a cleaning rod and red filter flashlight. Day and night.

**STANDARD:** All weapons are physically cleared and report rendered to the unit chain of command. The platoon leader renders the report to the range officer in charge. The following performance measures will be used:

- Platoon leader, using a clearly recognizable signal, signals "cease fire" and "clear weapons."
- All soldiers cease fire, lock bolts to the rear, place weapons on "safe," and remove magazines or ammunition as applicable.
- Fire team leaders physically rod each weapon and make certain that chambers are clear, magazines are removed, and weapons are on "safe." At night, the red filter flashlights are used to make visual checks.

## EXAMPLE TRAINING OBJECTIVES

**TASK:** Conduct a platoon breach and live fire assault.

**CONDITIONS:**

- A rifle platoon in wedge formation, 50 meters short of a simulated woodline.
- Platoon members equipped with individual weapons, LCE, and protective masks.
- The platoon equipped with 815 rounds of 5.56mm ball, 133 rounds of 5.56mm tracer, 600 rounds of 5.56mm SAW 4 + 1, 200 rounds of 7.62mm 4 + 1, 12 rounds of 40mm TP, three smoke grenades, and three parachute flares (night only).
- Selected platoon members equipped with wire cutters and grappling hooks.
- Triple strand concertina obstacle five meters beyond the edge of the simulated woodline, across the front.
- An objective 50 meters beyond the wire with nine positions arrayed across the front.

- Platoon leader and squad leaders equipped with whistles.
- Fire team leaders equipped with cleaning rods.

**STANDARDS:**

- The platoon deploys into a linear formation as it approaches the woodline, soldiers crawling on hands and knees so that machineguns are positioned on the flank to provide initial suppressive fire.
- Squads are on line in wedge formations behind the breach points.
- Squads have designated breach teams in the forward wedges.
- On the platoon leader's signal, M60s initiate suppressive fire; breach teams smoke the far side of the obstacle and conduct the breach.
- Breach is completed within two minutes.
- Squads move through the three breach points and deploy on the far side of the wire so that the platoon is in an assault line, one meter on the far side of the wire.
- On the signal of the platoon leader, machineguns cease fire and are rodded.
- On the signal of the platoon leader, the platoon commences the assault with squads using fire and movement. Individual soldiers use good three-to-five-second rushes so that there is a continuous forward motion while suppressive fire continues at a steady rate.
- The platoon establishes a hasty defense beyond the objective. All weapons are rodded and cleared by team leaders.
- Squads dispatch search teams and search the objectives. Other special teams perform duties as required.
- On the platoon leader's signal, the platoon smokes forward to obscure its withdrawal.
- Ensuring that the smoke has first billowed, the platoon withdraws squads by fire teams back through the breach points

(which, at night, have been marked with engineer tape or chemical lights).

- Squads withdraw to the simulated woodline and then the platoon re-forms into a wedge formation.

**TASK:** Conduct a squad assault.

**CONDITIONS:**

- A rifle squad moving in traveling overwatch formation, 15 meters from the edge of a woodline (simulated on the range with camouflage nets raised on poles).
- Squad members carrying assigned weapons, load carrying equipment, and protective masks.
- An objective 50 meters from the woodline with three enemy positions with pop-up targets.
- Squad equipped with 272 rounds of 5.56mm ball, 30 rounds of 5.56mm tracer, 200 rounds of 5.56mm SAW 4 + 1, nine 40mm white star flares (night only), one illumination flare (night only), and one HC smoke grenade.
- A counterattack array with three targets 300 meters forward of the objective, two targets at 200 meters, and two at 100 meters.
- Squad leader equipped with whistle and each team leader equipped with a cleaning rod.
- Executed both day and night.

**STANDARD:**

- Squad deploys from wedge formation to an assault line, crawling on hands and knees into a linear deployment with at least two meters between soldiers.
- Squad opens fire on the squad leader's signal, immediately engaging and striking the first three targets on the objective.
- Squad immediately initiates fire and movement, maintaining forward motion, using three-to-five-second rushes, and sustaining a steady rate of suppressive fire on the objective.
- Fire team leaders lead their teams in the assault.
- Squad assaults through to the far side of the objective and establishes a hasty defense.
- Weapons are put on safe and checked by the team leaders. Ammunition is redistributed.
- Squad engages counterattacking force so that at least two of the three targets at 300 meters are hit, both targets at the 200-meter range, and both at 100-meter range.
- Upon order of the squad leader, all weapons are cleared and rodded by the team leaders.
- Squad withdraws by fire team bounds to the edge of the woodline, employing smoke to obscure enemy observation of the withdrawal. Smoke billows before the squad commences withdrawal.
- Squad re-forms into wedges and continues withdrawal.





**Squad and team leaders must maintain fire on the objective.**

- Reports are rendered from fire team leaders to squad leaders to the platoon leader.
- These actions are done while maintaining a tactical configuration and without violating light and noise discipline.

## **THE ASSAULT**

A good infantry assault is one in which the assaulting element closes on the objective in the shortest possible time while maintaining continuous suppressive fire and minimizing the exposure of the attacking force. Squad and team leaders must maintain continuous forward motion in order to close on the objective before the enemy has time to react. They must maintain fire on the objective to keep the enemy's head down so he can't react to the assault. And they must use three-second rushes so as to lessen the squad's exposure to an enemy who may react by detonating a claymore mine on the assaulting element.

If they maintain continuous forward motion, someone within each fire team is always moving. If they maintain continuous suppressive fire, someone within each fire team is always firing. If they use three-second rushes, the fewest possible soldiers within each team will be exposed at any one time.

In addition to this general guidance, the following points should be noted:

- Leaders must have positive control over the initiation of assault fires. The fires themselves can be used to initiate an assault, of course, but the leader must have ironclad control over their initiation so there is no chance of starting the assault prematurely.
- Leaders can use whistles as tactical signals to cease fire during the assault, but they must also have visual backup signals planned in case someone does not hear the whistles.
- Fire team leaders must lead. The best technique for gaining and maintaining the momentum of the assault is to have the team leaders rush forward immediately when the assault commences. Although they do not fire initially, starting to move gets the line moving quickly and begins a momentum

that carries through the entire assault. Team leaders should not need to give commands. They rush forward and the members of their teams follow the example of their leaders, moving forward in some practiced sequence that is standard for the teams.

- Once the assault begins, the squad leader's job is to position himself in the center of his sector and to control the movement of teams by exception. If one team begins to lag behind, for instance, the squad leader directs faster movement. The only voice heard during an assault should be the squad leader's.

During the consolidation on the objective, platoon leaders must personally position and site crew-served weapons within their sectors. They should be directly involved in positioning M60s and Dragons and should check the firing location of any mortars attached to their platoons or positioned within their sectors.

Squad and team leaders must assign sectors of fire to their men; this should be an automatic response during any consolidation.

Search teams cannot run around objectives at night using white-lens flashlights to identify positions and conduct their searches. Doing so makes them obvious targets for enemy counterfire. Ideally, search teams should use night vision devices. At worst, they should have red-filter flashlights and use them only for close-in searches of enemy positions that have been found.

The execution of a hasty defensive reaction to enemy counterattack will almost always prove to be the toughest job for squad and platoon leaders: to exercise proper fire control, fire distribution, and fire commands. Normally, too little attention is paid to this phase of the operation.

If an element is disposed in a hasty defense, enemy targets observed must be engaged in the most efficient manner possible. Long range targets should be engaged with indirect fire weapons, crew-served weapons, and the like. A lone target or even two targets at 300 to 400 meters might be engaged by selected marksmen at the direction of fire team or squad leaders.



Soldiers should engage targets only in their sectors. Clearly defined sectors of fire are essential to preventing wasted fires. If squad leaders all assign sectors using reference points only 100 meters to their front (for example, "from that rock on the left to that bush on the right"), targets that are exposed at 300 to 400 meters may not be properly engaged. A better approach is for squad leaders to define sectors of fire at 100 meters, then redefine those sectors with terrain reference points at 300 to 400 meters. Of course, sectors assigned at 300 to 400 meters must be consistent with the squad sectors assigned by the platoon leader.

During a typical live fire exercise, rifle squads and platoons usually open fire with everything they have available as soon as a target array is exposed—in effect, firing their final protective fires. Team leaders can be seen firing away as if they were riflemen, while the SAW gunner on their left and the grenadier on their right also fire away without any direction from their leaders. The end result is a lot of bullets put downrange with few targets hit.

Part of the problem is in how we structure our training objectives and how we display the target array. The other part of the problem is in educating leaders that their job is to *direct* the fires of the men they lead. A fire team leader probably should fire only to mark targets for his team or during final protective fires. His primary efforts should always be in directing the fire of the SAW in his team and the fire of the M203 to cover designated dead space. The squad leader should be directing the sequence of engagement, directing the fires of any crew-served weapons in his sector, and supervising the efforts of his team leaders.

Given the few Dragons he controls, the platoon leader should get involved personally in the selection of targets and the initiation of Dragon fires. He must also closely control and integrate the illumination available within his sector for the best target engagement at night. During night operations, platoons supported by 60mm mortars will have as many as three 60mm mortar illumination rounds and three M203 illumination rounds in the air at the same time. This is a waste of precious am-

munition. The initiation of illumination must be directed by the platoon leader and must be executed in the sequence he has designated so that continuous illumination can be maintained over the target area for the longest period possible.

Live fire exercises can be structured to teach this process. The emphasis should always be on portraying sequential target arrays. Point or area targets can be presented at long distances where the appropriate response is to engage them with only selected crew-served weapons or marksmen. Engineer tape can be positioned on flat, open ranges to simulate dead space for an engagement with M203s. Close-in target arrays can portray a final assault that would trigger friendly final protective fires. Such a sequential target array should be written into the training objective for a live fire operation.

Ammunition should be carefully allocated so that tracer rounds in the right mixtures are available to squad and fire team leaders so they can work out procedures and practice marking targets for their men during live fire operations.

Units must begin to educate young noncommissioned officers on their responsibilities in controlling and directing fires. This can be done in a garrison environment. SOPs should be worked out at the fire team, squad, and platoon levels to show how leaders will direct selected weapon systems to fire, identify targets, and adjust from designated terrain features.

Live fire operations are essential for training infantry soldiers. The confidence a soldier gets when he assaults forward with fellow soldiers firing on his left and right—coming to the realization that he can really depend on those men to "do it right"—is the best team-building exercise available. Such operations not only build individual and unit confidence, they also hone the individual soldier's critical combat skills. Finally, these operations more fully develop and strengthen the chain of command within infantry squads and platoons.

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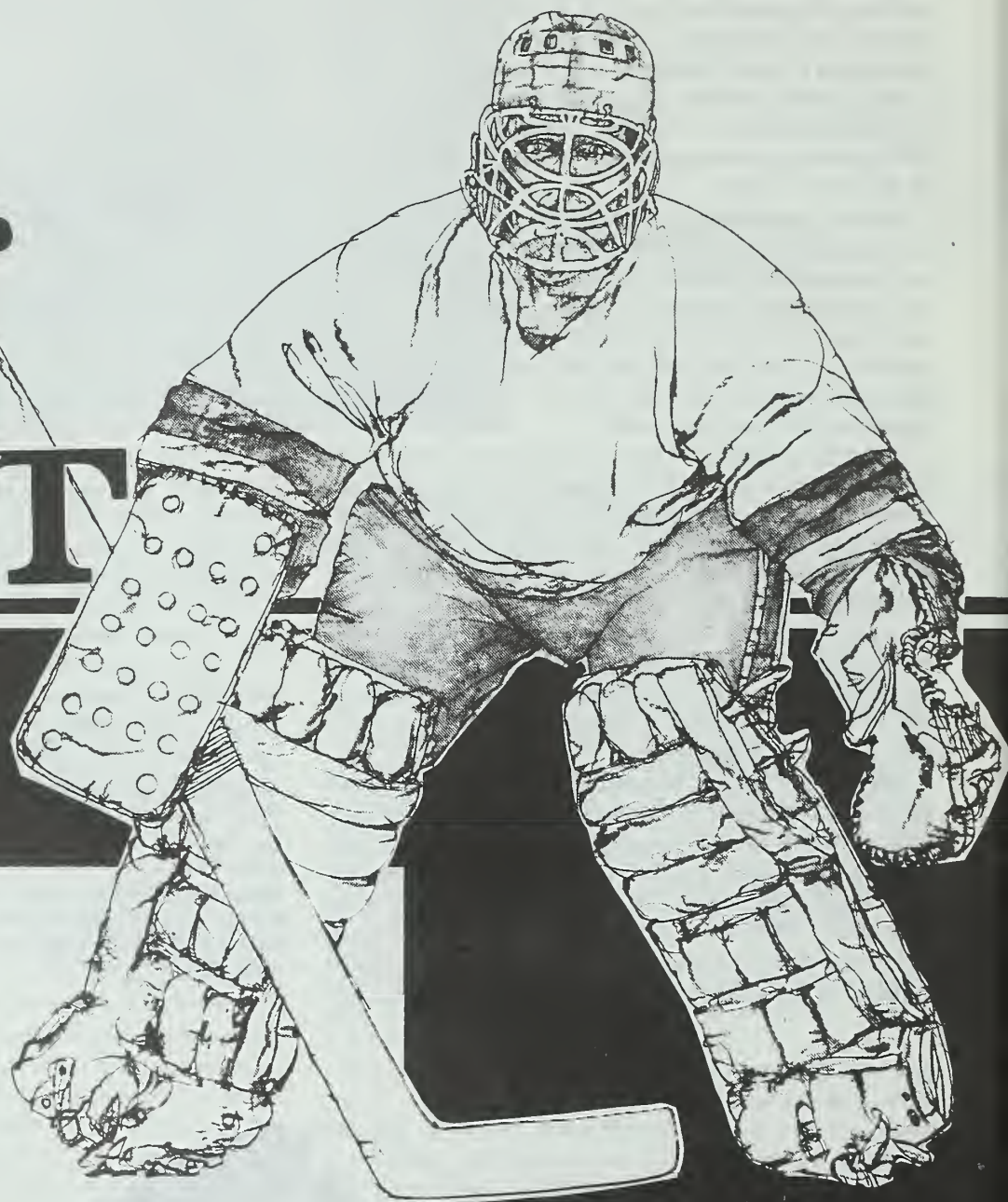
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# COT



## **Battlefield Mobility The Counter - Obstacle Team**

Captain John D. Lock



With the introduction of AirLand Battle doctrine, offensive operations have once again come to the forefront of U.S. land warfare doctrine, and at the core of this doctrine is the combined arms team. As an integral part of this team, the combat engineer is found on the battlefield alongside and often in front of the infantryman and the tank. Unfortunately, though, the specific way in which divisional combat engineers fit into the AirLand Battle scheme has yet to be fully developed.

Throughout history, the combat engineer's mobility mission has been to preserve the momentum of the attack by breaching enemy obstacles and fortifications. This mobility mission will be critical to success on any future battlefield. To close with and destroy the enemy is, after all, any army's primary goal.

While technology has greatly increased the infantryman's and the tank's ability to destroy the enemy, very little effort has been aimed at increasing the combat engineer's ability to get the infantryman and the tank forward so that they can complete their missions. Although mobility is the combat engineer's primary mission in the offense, it is a mission he is ill-equipped to perform, given the assets available to him. Promises of things to come, "notional" assets, and RE-FORGER 3x5 index cards will not breach lanes through opposing force minefields and antitank ditches.

Combat engineers have proved, however, that they can overcome this equipment handicap through an imaginative use of the assets currently in the inventory. This action has resulted in the development of an engineer counter-obstacle team (COT). The COT, properly trained and employed, is the only element available today that can reasonably guarantee the maneuver of the combined arms team in the spirit of AirLand Battle doctrine.

Before discussing the use of the COT, however, another aspect of mobility needs attention. One of the basic impediments to successful maneuver today is the combined arms team's misunderstanding of Soviet countermobility capabilities. Despite common belief, defensive operations are not anathema to the Soviets. Although they do consider the offensive as the only means of achieving decisive victory, they constantly emphasize the defense as a temporary form of combat that makes the transition to the offense easier.

In World War II, in fact, the Soviets showed themselves to be masters of the defense, waging some of the greatest defensive battles in history—such as those at Stalingrad, Moscow, and Kursk. They attained excellent results in constructing positions and dummy installations and in using camouflage. In open terrain, they dug wide and deep antitank ditches, often many miles long, and they set up numerous minefields, wire obstacles, entanglements, and other obstacles.

In the southern Ukraine, following a successful tank thrust, the Soviets immediately protected the terrain they had gained with a belt of antitank mines blocking all roads and approaches. On one day alone, they laid 20,000 such mines. German counterattacks ground to a halt and collapsed in the minefields. All told, the Soviets employed more than 200 million mines during World War II.

Soviet defensive operations today are no less formidable. They have developed a doctrine that provides for a defensive

stance under the following circumstances: consolidating gains, halting by enemy defenses, or repulsing enemy counterattacks. Once a Soviet unit goes on the defensive, it does so quickly and efficiently. A typical battalion defensive area is three to five kilometers wide and two kilometers deep. Depending on the frontage, the battalion may defend with all three companies forward or with two up and one back, with at least one platoon always held back as a reserve.

The main Soviet defensive area is a defense in depth. Minefields are placed forward of the defensive position to slow the enemy and to make him concentrate his forces. Fires are planned to attack these concentrations and to prevent or delay breaching. The minefields themselves are designed to break up the enemy's assault and to strip away his infantry's supporting armor. They are also designed to force the enemy into areas where the concentrated fires of all weapons can be brought to bear. Minefields within the main defensive areas are placed so as to confine the enemy within fire sacks and make the employment of the reserves easier. (For a complete discussion of Soviet mines and minefields, see the two-part INFANTRY article "Soviet Landmine Operations," Part 1, May-June 1988, pp.27-31; Part 2, July-August 1988, pp.22-25.)

## STRONGPOINTS

Company or platoon strongpoints form the basic elements of the main defensive area. These strongpoints are established on key terrain and the Soviets feel they must be retained at all cost. Mutually supporting fires that provide for fire sacks are also planned. Each company will occupy a 360-degree strongpoint 500 to 1,000 meters wide and up to 500 meters deep. Normally, all three platoons will be forward.

All Soviet troops, no matter what their branch may be, are trained to perform some engineer tasks whether it is building weapon emplacements and trenches or emplacing minefields by hand. The Soviets contend that a tank protected by a revetment is significantly more effective in the defense than an attacking enemy tank. As a result, the Soviets take very seriously the task of digging in their vehicles, equipment, and personnel. If engineer support is not available to provide those positions, the vehicle crews attempt to dig positions themselves.

Obstacle emplacement and survivability positions serve as the foundation of the Soviet defense. When the Soviet soldier halts, his primary mission can be considered that of "going to ground" for survivability and emplacing obstacles to shape the battlefield.

The Soviets' obstacle emplacement and digging capabilities are no less extensive today than they were 40 years ago. A dangerous assumption on the part of many U.S. commanders is that the Soviets' combat engineer organization and capabilities are similar to those found in our own combat engineer units. The fact of the matter is that their combat engineering capabilities are superior to ours.

Soviet combat engineers, referred to as sappers, are found organically down to the regimental level. This regimental engineer company is made up of three platoons, two of which—the mine warfare platoon and the technical (construction) pla-



toon—directly affect an enemy's mobility mission. At the division level, Soviet engineers, as in a U.S. division, are found in battalion strength. This battalion adds a sapper company and a technical (construction) company to the division's countermobility capabilities. All of these countermobility or survivability assets enable the Soviet forces to entrench themselves behind a considerable obstacle system in a very short time.

A Soviet motorized rifle regiment (MRR) with divisional support and a priority of effort on countermobility could probably dig more than 1,100 meters of antitank ditch in the first hour and surface lay with engineer assets at least 1,500 meters of minefield with a density of one mine per meter. These minefield frontages can be augmented by 16,200 meters if each squad in the regiment spends just 20 minutes laying mines with a mine chute. This would easily give an MRR at least 17,700 meters of minefield within the first hour with no consideration given to air- or artillery-delivered scatterable mines. Even though these estimates are interpolations based upon the best of conditions, they do show that the Soviets, even in a hasty defense, can emplace a considerable countermobility barrier and dig themselves in in a short period of time.

In the face of this considerable Soviet defensive capability, then, how would the commander of a U.S. mechanized or armored force acquire mobility?

Every maneuver task force has a task force engineer. He has under his command at least one platoon of combat engineers with its four armored personnel carriers (APCs). Given a particular mission, the task force engineer can have any number of additional engineer assets attached to him. These assets normally are in the form of combat engineer vehicles (CEVs), armored vehicle launched bridges (AVLBs), or heavy earth-moving equipment—dozers and armored combat earthmovers (ACEs).

## SPECIAL MEMBER

A task force engineer serves as a special member of the maneuver task force commander's staff. His primary mission is to advise the commander on how engineer assets can best support the commander's scheme of maneuver based upon the commander's prioritization of engineer work. Mobility itself—the reduction or elimination of the effects of obstacles or mines to improve the movement of maneuver forces—is the responsibility of the task force or team commander, of course, not the engineer.

The task force engineer can best carry out his mobility mission with a counter-obstacle team (COT). This team should be composed of, at the least, his platoon of four APCs, one CEV, and two AVLBs. If ACEs are available, one of them should be used to augment this force. The APCs should carry as part of their basic load the following: bangalore torpedoes, cratering charges, satchel charges, shovels, picks, wire cutters, grappling hooks, smoke pots, bolt cutters, chemical lights, colored smoke, and lane marking materials.

The placement and control of the COT is critical to the overall success of the maneuver unit. The team needs to be in support of the task force's main effort and under the direct con-

trol of the task force engineer, who serves as the COT leader. The team members must remain together and the team itself must not be broken down into sub-elements, because decentralizing its control would dilute the overall combat multiplier effect of the engineer force. The final result would probably be heavy losses and possibly mission failure for the maneuver force.

The maneuver commander's responsibility is to direct where and when the COT should be engaged to breach a given obstacle. The task force engineer's responsibility at that point is to commit the assets he considers necessary to effect that breach.

The COT should be well forward in the column of march with the advance guard. Often overlooked, though, is the need for an engineer to be with the covering or reconnaissance force that is leading the movement, which usually means the scouts. This engineer should be the task force engineer's platoon sergeant. He will maintain contact with the task force engineer using the engineer platoon's headquarters section AN/PRC-77 radio.

Upon encountering an obstacle, this engineer can help the scouts by determining whether the obstacle can be bypassed and, if it cannot, advise the task force engineer on what has been encountered, how best to reduce the obstacle, and at what point it should be breached.

## BREACHING SEQUENCE

Taking these recommendations into consideration, the task force engineer then sets up a breaching sequence and rearranges his formation while on the march to meet his needs. Concurrently, the scout platoon leader informs the maneuver commander of the obstacle. If a bypass can be identified, the maneuver commander must consider whether this is a legitimate gap in the enemy's defenses, or an attempt to channel his forces into a kill zone. If the maneuver commander decides to breach the obstacle, the sequence of events begins with the organization of support, breaching, and assault forces.

The support force's mission is to secure the near side immediately and provide covering fires in the vicinity of the breach to neutralize enemy direct fire. (If at all possible, support elements should be moved around or through the obstacle to secure the far side.) This neutralization is critical, because an enemy who places high priority on engineer equipment can most likely halt all but the most determined attacks.

During a battle in the Arab-Israeli war on the Golan Heights, for example, an Israeli commander in one sector identified Syrian engineer equipment as the primary target of engagement and was able to stop all Syrian advances across an antitank ditch. Only later that evening, under the cover of darkness, were the Syrians finally able to breach this antitank ditch successfully. (The Israeli Defense Force lacked any type of night observation devices for their armor at that time.) Israeli forces in the south, who had no major countermobility obstacles, were not nearly as successful in stopping the Syrian onslaught.

In addition to direct fires, supporting indirect fires need to





be called in to help suppress enemy fires and provide obscuring smoke on the obstacle. Of particular importance are counterbattery fires to counter any enemy indirect fires that might be directed at the breaching element.

Once enemy fires have been neutralized as much as possible and smoke has been placed between the obstacle and the enemy's covering forces, the task force engineer commits his breaching elements where the maneuver commander has directed. This location should be marked by the scouts using whatever methods are available, such as smoke, M203, or tracer rounds.

The location of the breach is critical and should be chosen carefully. To reduce losses, the proper use of terrain must be seriously considered. Breaching a minefield in the middle of an open field, for example, instead of at the point where it ties into a tree line, is not considered by most to be a tactically sound move.

Once the breach site has been designated, the COT combat engineer goes about his work. All breaching vehicles should have tow bars or cables in place to make quick recovery easier if they should become immobilized near or in the breach. COT weapon systems—such as the APCs' .50 caliber guns, the Dragons, and the CEV—that are not employed in the breach itself can be used to support the breaching element with covering fires.

The task force engineer, under most circumstances, should follow a previously developed obstacle breaching matrix, flow chart, or PERT diagram for minefields, antitank ditches, road craters, abatis, gaps, or wire. A matrix provides a sequence and priority of engineer equipment or troops to be committed to breach a given obstacle. This matrix, if designed properly, will allow the task force engineer to use his assets quickly and with a minimum of effort. It is particularly valuable when various types of obstacles are encountered in depth.

Because of the engineers' lack of modern equipment or munitions today, one of the most difficult obstacles to breach is a minefield. Mine rollers and plows are either scarce or nonexistent. Even when they are available, they do not clear a lane that M113s or Bradley fighting vehicles can follow without risk.

Minefield breaching line charges such as the M173 projected line charge are unreliable and just as scarce. (There is a bright star on the horizon, though, with the fielding of the mine clearing line charge.) Some untested options are pushing destroyed tank hulks or rolling M113s with blade tanks, and clearing a lane through a surface minefield with a CEV or a blade tank.

If all other methods fail, dismounted combat engineer minefield breaching teams can be used. Each breaching team consists of two or more soldiers, depending upon the depth of the minefield and the number of lanes to be breached. Staying as close to the ground as possible, the first man through the minefield identifies each mine within the lane to be cleared and marks it. This man is also responsible for marking the lane. (Lane marking under fire is not a very well developed concept in our Army. It usually runs the spectrum from engineer tape to flares or luminescent powder.)

Following closely behind the mine marker is the demolitions specialist. Loaded down with satchel charges full of primed sticks of TNT, dynamite, or C-4, the demolitions specialist places an ignited charge on each marked mine. The depth of the minefield determines how long a fuse will need to burn. Once through the minefield, the breaching element needs to move to a previously identified covered and concealed position to link up with the other teams.

Fortunately, Soviet minefields generally lend themselves to this type of breaching because, for the sake of speed and recovery, most Soviet minefields are made up of surface-laid anti-tank mines. Obviously, if antipersonnel mines and trip wires are part of a minefield, breaching it will be considerably more difficult.

Infantrymen can be used in this role, if it becomes necessary to do so. One warning, however—they may lack an engineer's concept of the limitations of explosives.

Once an obstacle is breached, the assault force moves through, secures the far side—if it has not been secured earlier—and continues to advance. The maneuver commander must keep in mind the potential employment of enemy scat-

terable mines as well as rotary or fixed wing close air support to reseat the breach and trap his forces in a "kill zone" between defensive belts. Accordingly, he must plan to use counter-battery fires and air defense artillery assets to cover the breach.

Both the maneuver commander and the task force engineer should report the obstacle breach to their respective higher headquarters. The task force engineer should make sure the breach is adequately negotiable and marked for the rest of the maneuver elements. (An attempt should be made to turn the breach over to a follow-on unit, but in most cases this probably will not be possible.) The task force engineer should at least ensure that the entrance and exit points are adequately marked and then move on to continue the mission with his maneuver unit. It will be the follow-on engineer's mission to expand the breach and reduce the obstacle if necessary.

Leadership, protection, firepower, and maneuver are the critical ingredients of combat power. While U.S. forces have improved considerably on the first three of these elements, the fourth still needs improvement. Speed and cross country capability alone do not make for maneuver. Against a determined enemy, the ability to move swiftly and cross country will normally be gained only after the enemy's obstacle system has been reduced.

As with almost everything else, training is the key. Command and control of a counter-obstacle team as part of a maneuver unit's formation and battle drills is a monumental undertaking that will succeed only if all the maneuver unit's elements mesh together efficiently. This meshing can come about only when the armor, infantry, artillery, ADA, aviation, and combat engineers train together as a true combined arms team whose only mission is to close with and destroy the enemy.

While a counter-obstacle team cannot guarantee successful maneuver every time, it can at least guarantee the maneuver unit a fighting chance—something it does not, in many instances, have now.

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# TRAINING NOTES



## The Omega Force

CAPTAIN JAMES D. McCONNELL, JR.

"Lead by example" is a commonly preached, less commonly practiced, military aphorism. It was my good fortune, though, while serving as a lieutenant in the 172d Infantry Brigade at Fort Richardson, Alaska, to serve under a battalion commander who practiced at least as well as he preached.

Chief among his leadership tools was an organization officially known as the Omega Force. Unofficially, it was known—at least among the battalion's lieutenants—by several less flattering names as well. But even those of us who suffered most by it agreed that it was an invaluable enterprise, and one that had applications at several different levels.

I believe the lessons learned from my days as an Omega platoon member may be useful to present and future battalion and company commanders.

The Omega Force concept was developed and implemented by Lieutenant Colonel William C. Ohl III, who used it with great success during his command of the 4th Battalion, 327th Infantry Regiment in Alaska and of what is now the 3d Battalion, 75th Ranger Regiment, at Fort Benning.

The Omega Force was a platoon, in name and in reality (the battalion commander had the unit activated on a set of orders, complete with a guidon). It was composed of the battalion's officers: The battalion commander was the platoon

leader; the executive officer was the platoon sergeant; the communications-electronics officer (CEO) was the radio telephone operator (RTO); the battalion surgeon was the medic; the battalion fire support officer (FSO) was the company FSO; the company commanders were M60 machinegun and 90mm recoilless rifle gunners and crewmen; and the platoon leaders and assistant staff officers filled out the platoon as squad leaders and riflemen.

The leadership and training concept was beautiful in its simplicity. (I use both "leadership" and "training" deliberately, because, like most worthwhile exercises, it is difficult to cleanly separate the

two.) Once a quarter, the Omega Force, led by the battalion commander, conducted platoon missions for a period of 36 to 48 hours, during which the battalion commander showed us (not told us) how it was done. None of the missions were easy. All were noted for their exceptionally high standards, their physically demanding requirements, and the insights they provided to each officer in the battalion on exactly what was expected of him. The sequence of events for a generic mission would be something like the one shown in the accompanying table.

This sort of training offers a considerable number of benefits, not the least of which is an opportunity for lieutenants to

### SEQUENCE OF EVENTS

MONDAY	0530:	Physical training led by Omega platoon leader.
	0830-1100:	Operations order.
	1100-2400:	Day and night rehearsals and instructions.
TUESDAY	0001-0200:	Night rehearsal.
	0200-0600:	Rest.
	0600-1400:	Day rehearsal and backbriefs.
	1400-1500:	Inspections.
MISSION	1830:	Night insertion.
		Move to objective through tough terrain—2,000 meters.
		Assault.
THE UNEXPECTED		One casualty designated per squad; casualties must be carried 3,000 meters.
WEDNESDAY	BMNT	Squad enter friendly lines.
		Truck to battalion.
		Debriefing and critique.

work closely with their battalion commander (who is to them a sometimes remote, frequently threatening figure), and to observe him doing *their* jobs—exactly the way they ought to do them.

By watching the battalion commander, we learned his standard (and so, ours) for the following:

- Timely, detailed warning orders.
- Operations orders that were, if anything, superior to those we learned to give in Ranger School. (They were also a good way to compensate for the often radically different backgrounds and training of the lieutenants.)
- Solid day and night rehearsals, conducted until every man in the platoon was capable of leading a mission.
- Inspections that actually identified and corrected deficiencies. (Sometimes they caused embarrassment; more often they prevented disaster.)
- Probing, comprehensive backbriefs that helped ensure success.
- Navigating under difficult conditions (night, waist-deep snow, showshoes) and keeping everyone together and oriented.
- Stealthy movement and reconnaissance.
- Positioning and using crew-served weapons.
- Using wire (yes, wire on offensive operations) to reduce FM radio traffic.
- Assaults that made the most of all weapons and ensured complete coverage of the objective.
- Thorough and methodical actions at the objective, with a minimum of voice communication.
- Orderly and controlled withdrawals following status reports.
- Debriefs that were near mind-numbing in their thoroughness, but unquestionably productive.
- Tough, unsparing (some would say *vicious*) after-action reviews, from platoon leader on down, noting everything that affected or could have affected mission accomplishment.

In isolation, any one of these lessons would have justified the Omega Force as a leadership and training tool. But we platoon members learned more than just techniques and standards. We learned understanding; we learned empathy; we learned humility.

Company commanders learned just

how much effort it takes to carry an M60 or a 90mm all night through waist-deep snow. And they learned that if they wanted to prevent breaks in contact during movement and arrive at the objective with conscious crews, they'd better plan for the relative difficulty of crew movement.

The CEO learned just how much stuff, including an AN/PRC-77 radio, you really can cram into an arctic rucksack, and his classes to our RTOs began to reflect some of his new knowledge.

We lieutenants discovered the true "delight" of spending time in subfreezing suspense in an objective release point (ORP) while the platoon leader conducted his reconnaissance. We began to appreciate that every minute we could save in our platoons through good planning and the proper use of our subordinate leaders would have a direct effect on our soldiers.

## COHESION

Just as important, perhaps—although we all enjoyed our own private miseries on these missions—we knew that our suffering was only a part of a much greater communal agony. The missions were intentionally rigorous and sometimes exacted a heavy toll on the less fortunate or the ill prepared. But the inevitable by-product of that stressful training was a cohesion that could not have been generated by the one-hour officer personnel development sessions or Friday afternoon officer calls.

Battalion hail and farewell ceremonies capitalized on this hard-earned camaraderie, including the presentation of awards to those who had "distinguished" themselves on the latest mission; receiving one was considered a special honor. (For example, I earned the Sir Edmund Hillary Memorial Award for the "easy" grace with which I traversed a 200-foot escarpment during a withdrawal from one objective—a process that required one person to push me, one to pull me, a tank of oxygen, and about half an hour. The pusher, the puller, and I experienced what sociologists refer to as "bonding.")

The Omega Force also generated a considerable amount of mutual respect

between the battalion's officers and soldiers. We officers certainly gained a greater appreciation for what their lives were like, and we seemed to grow some in their eyes, too, because they knew that we knew, first hand, what we were talking about.

The troops delighted in the horror stories that came out of those missions and enjoyed knowing, if only for a while, that we all shared the same footing. The Omega Force also became part of their bragging rights in the inevitable comparisons that occur between battalions. Whether this was intended or not, I don't know, but it is instructive to note that an officer's tactical training program became a source of pride and morale for the whole unit.

Those who are unconvinced that this is a good program—who may say, "It's a good idea, but it just can't be done here"—will usually offer several specific reasons why not:

- "We can't just cut a whole battalion's worth of officers loose for three days."

Yes, you can. Our Omega Force missions were typically conducted at the end of battalion field exercises, so the Force went into action during the recovery phase. Control of the battalion was turned over to the NCOs, who, believe it or not, were able to handle it. I'll grant that there may be some risk involved, but the battalion was always there when we got back.

- "I guess it might be a good idea at battalion level, but it won't work at company or platoon."

Yes, it will. Although battalion is probably the best level for Omega training, with a little imagination it can be used at company and platoon level as well. I conducted one phase of my preparation for platoon external evaluations using the Omega model (with modifications), and enjoyed great success. Properly trained corporals and privates first class can run a platoon (history will support me on this), and many actually do it extremely well. My soldiers responded readily to the opportunities to lead; after this training they understood my intent, my standards, and my rationale on platoon missions far better and performed successfully. Running Omega missions at com-



pany or platoon level does require imagination and enthusiasm.

- "What if the Omega platoon leader blows the mission?"

Unquestionably, this is the biggest risk in Omega training. (I would also venture to guess that it's also the fire behind the smoke of many of the other objections.)

I won't deny that Omega Force training is tough—it's tough on the platoon, but it's tougher on the leader, because he is responsible not only for flawless execution but also for the planning and legwork that is involved. And it is difficult for him to pontificate on the flaws of his subordinates after he has just led them on a pointless two-day walk in the woods. But as a leader, doesn't he run that risk reg-

ularly anyway?

Small mistakes here and there won't be fatal (in training is the place to make them), and an officer may actually gain an appreciation for the difficulties involved in his subordinates' jobs as well.

Of course, the converse is equally true—if an Omega mission is flawlessly executed, not only will the soldiers see how it is done, but now the leader's standards for them can become that much higher. Most important, Omega missions let a leader move from a "tell me" to a "show me" emphasis in his training, and the value of the training, cohesion, and mutual respect that this engenders can't be overstated.

I won't try to tell anyone that our

Omega missions were eagerly awaited or that we enjoyed them once they started, but we did learn from them. We learned how to run a mission, but just as clearly, we learned our battalion commander's theory on how to run a unit—in short, "from up in front." After all, isn't that the only place from which a leader can say "Follow me" and have it make sense?

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**Captain James D. McConnell, Jr.**, served as a platoon leader and company executive officer in the 4th Battalion, 327th Infantry at Fort Richardson, Alaska. He recently completed an assignment as assistant executive officer, U.S. Army Infantry School, and is now attending law school at Rutgers University.

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# The Deep-Battle Surgeon

MAJOR GEORGE W. CHAPPELL

An aerial fire support officer (AFSO) is *your* deep-battle surgeon. He is an artillery lieutenant or an artillery sergeant first class who, with an Army aviator, operates from an OH-58D helicopter.

The field artillery's use of an aerial observation platform is not new. Hot air balloons, for example, were used during the American Civil War to adjust artillery fire, and some type of aircraft has been used by U.S. artillerymen in every war since. In fact, the first home of Army aviation was at Fort Sill, Oklahoma.

The OH-58D is a great improvement over balloons, of course, and even over the Vietnam-era observation helicopters. Basically a flying computer, or several computers, it leaves conventional aircraft system design behind. Using this advanced weapon system, an AFSO can acquire targets, and shoot, move, and communicate better than any artilleryman of the past.

The OH-58D is a high performance

helicopter with more than twice the horsepower of the OH-58A and OH-6 helicopters. The four-blade main rotor and the larger tail rotor give the pilot an agile machine. It is designed to operate in the nap-of-the-earth (NOE) terrain flight mode. In the battle area, the OH-58D can maneuver and survive better than any other U.S. Army helicopter.

The OH-58D is the first Army helicopter designed from the start to operate at night using light-intensifying night vision goggles. Too, the cockpit has special lighting so that the crew easily can see outside the aircraft and read the aircraft instruments in the dark.

The most obvious feature on the OH-58D is the addition of a mast mounted sight (MMS). The sight is positioned above the rotor system, and this allows the crew to operate below masking terrain features. Coupled with the small size and reduced heat signature of the airframe, the MMS also permits the crew

to operate for extended periods without being detected.

The MMS has both television (TV) and thermal imaging sights (TIS) that permit the AFSO to acquire targets at ranges beyond seven kilometers, both during the day and at night. The AFSO therefore has little trouble seeing a target; his problem is finding the right fire support system to use on a particular target.

The well-stabilized sights give the AFSO several operating options. The MMS can point in any direction, regardless of the helicopter's orientation, and can point automatically to a preplanned location. When a target is detected, the MMS can lock onto it and continue to track it without further operator intervention.

Both the TV and thermal sights are used during the day, usually with both TV and TIS images displayed on two cockpit television screens. The heat signatures from armored vehicles and



**The OH-58D has the most modern communication package of any Army fighting helicopter.**

personnel are excellent target detection cues during the day, and even better ones at night. The TIS and the AN/AVS-6 night vision goggles (NVGs) give the AFSSO tremendous night fighting capabilities. (Poor light discipline at night is quickly obvious when using the NVGs.)

Locating targets is easy using the MMS-equipped laser rangefinder with the on-board navigation system. This also gives the AFSSO first-round-fire-for-effect accuracy. The OH-58D can store 20 preplanned targets, and the AFSSO can recall any of them; when he does, the MMS will automatically point toward the target. When the AFSSO acquires an actual target, he can have the MMS lock onto it and can send a digital call for fire with just a few button pushes.

The OH-58D has the most modern communication package in any Army fighting helicopter. It has four radios—two FM, one VHF, and one UHF. An AM-HF radio soon will be added. The OH-58D also has the airborne target handover system (ATHS), which “talks” digitally with TACFIRE as well as with other aircraft equipped with the system.

All the radios are controlled through two switches and the keyboard. The crew members can program their entire communications-electronics operation in-

structions (CEOI) into the system’s memory. Changing radios or frequencies is simply an up or down on a switch.

Each crew member can communicate independently of the other, so that as the AFSSO digitally calls for fire the pilot can talk at the same time by secure voice to the supported FSO.

When the AFSSO locates a target with the MMS, the location is automatically loaded into the ATHS. For a trained AFSSO, the time from target detection to the digital burst of the call for fire is only seconds.

The presence of the AFSSO deepens the battle area—he stalks his prey and aims for long-range kills.

The AFSSO can deliver any requested fire support munition on target quickly and accurately. The laser can designate for any allied, laser-guided munition, and can hand over a target to any other weapon system that has a laser spot tracker.

Fire adjustment from the air has always been relatively easier than adjustment from the ground. The AFSSO is more than an extraordinary shooter, however. He is also a well-trained fire support coordinator and can perform limited fire support officer duties. He can advise a maneuver commander on all aspects of fire support and can quickly develop fire

support plans; he can alert other target acquisition assets and increase their survivability; he can be the eyes and ears of the commander synchronizing the fire support; he can make things happen quickly and accurately.

The AFSSO gives the commander a means of delivering massed firepower anywhere on the battlefield. He can operate independently of the ground observers under the control of the FSO. He can be considered an aerial COLT (combat observation lasing team) and can operate in the deep, close, or rear areas. He can extend fire support observation and communications for deep operations, and can “trigger” our multiple launch rocket system (MLRS). Finally, he is the answer for quick, responsible observation of Level III threats in rear operations. Because the AFSSO is the key to massing highly lethal firepower, he should be included in all Joint Air Attack Team (JAAT) or close air support (CAS) operations.

He is, indeed, your deep-battle surgeon.

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**Major George W. Chappell**, an Aviation officer, is chief of the Aerial Fire Support Branch, U.S. Army Field Artillery School, Fort Sill, Oklahoma.

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# Integrated TOC

LIEUTENANT COLONEL JAMES D. CRABBE

The National Training Center at Fort Irwin provides the most realistic and challenging training available to units in the Army, and its lessons are rapidly becoming the cornerstones of emerging warfighting doctrine.

The Chief of Staff of the Army, General Carl E. Vuono, has said that four critical lessons are being learned at the NTC. These lessons can be summed up as follows: To be successful, units must fight as a combined arms team; must integrate their combat power; must keep up with the pace of the battle; and must understand the importance of sustainment and of planning for sustainment.

In an effort to increase their ability to fight as a combined arms team, the 2d Infantry Brigade (Motorized) and the 6th Battalion, 11th Field Artillery (M198 155mm, DS) of the 9th Infantry Division at Fort Lewis recently combined their tactical operations centers (TOCs) during sustained tactical operations.\* The result was a more responsive fire support system, better integration and synchronization of the fire support means available to the maneuver commander, and an improved ability to fight together as a cohesive combined arms team.

The integration of the entire direct support field artillery battalion TOC into the maneuver brigade's TOC—while not a total answer to the chal-

lenges listed by General Vuono—goes a long way toward meeting them. Although this kind of integration may not be practical in all cases, it is clearly an option that every maneuver unit should seriously consider.

This integration effort was prompted by many factors but primarily by the desire to place the field artillery battalion's fire direction officer (FDO), who controlled the artillery fires, next to the people who could best identify the places on the battlefield where those fires needed to be applied.

## BATTALION FDC

Initially, only the artillery battalion fire direction center was placed in the brigade TOC to facilitate independent targeting and engagement decisions by either the brigade fire support officer (FSO) or the artillery FDO. Several automated simulation exercises showed, however, that segmenting the battalion's TOC elements in varying combinations diluted their ability to perform the required combat functions and that the best result would be obtained if all of the battalion's functions could be performed inside the brigade TOC complex. For example, the battalion S-3 needed to clear position areas and track the friendly situation. He also needed real time data on the targets being engaged, the modifications to make to ammunition expenditure rates, and the fire support coordination measures in effect. The artillery battalion S-2 needed current battlefield data and needed to be

able to coordinate his collection efforts with those of the brigade S-2. In short, the entire TOC needed to be integrated.

The effort was made easier by some of the unique capabilities of the equipment available in the 9th Infantry Division Artillery (DIVARTY). The DIVARTY units are equipped with the lightweight tactical fire direction system (LTACFIRE), which is mounted in the back of a HMMWV (high mobility multipurpose wheeled vehicle). This system has the same capabilities as the heavy TACFIRE system but is much smaller and more mobile.

The fire direction center is equipped with two briefcase terminals (BCTs), which together have a six-modem capability. This enables them to "talk" digitally over six radio nets. The operations and intelligence (O&I) section is equipped with one BCT with a four-modem capability. The artillery battalion S-2 works from a HMMWV shelter equipped with FM radio gear and a computer link with the maneuver control system (MCS2).

The three HMMWV shelters (O&I, FDC, and S-2) are joined by means of a tent extension that serves as a briefing area. The brigade FSO works from a HMMWV shelter equipped with a standard four-modem BCT located in the brigade TOC.

The integration of these elements was accomplished by combining the functions of and the data tracked by the artillery operations portion of the O&I HMMWV shelter with those of the brigade FSO and co-locating them in the

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*\*The author acknowledges the contribution of Captain Dennis J. Jarosz, Field Artillery, who provided considerable technical input to this article. Since this article was written, the 9th Division has lost its 2d Brigade.*

brigade TOC. This eliminated the need for the second LTACFIRE-equipped shelter. The artillery battalion S-2 co-located with the brigade S-2 and worked with him at his battle station. The artillery fire direction LTACFIRE-equipped HMMWV shelter was joined to the TOC with a tent extension to create additional work space between the fire direction center and the main TOC, and the brigade FSO/O&I shelter was placed directly opposite for ease of control. (See accompanying diagram of the TOC configuration after integration.)

Numerous advantages were immediately realized by the maneuver commander and his S-3 as well as the field artillery commander and his S-3.

- The first advantage was a faster response time for planning. While the maneuver commander's intent was being prepared, the information did not have to be relayed to the artillery battalion TOC because the key individuals were already present to formulate and execute the fire support plan.

- The integrated TOC was more responsive to change and the fire support element could react more quickly to the demands of the maneuver force.

- Better targeting and intelligence information was passed through the maneuver brigade S-2 and the battalion S-2 working together at the same battle map, combining the information available

through the maneuver force's assets as well as through the field artillery assets.

- The artillery battalion commander, free to focus on his duties as the fire support coordinator, was now in a position to help the brigade commander and S-3 in the brigade TOC more readily than he could by traveling back and forth between two separate TOCs.

- With the artillery battalion's TOC co-located with all the brigade fire support assets (the air and intelligence liaison officers, Air Defense officers, Engineers, NBC, FSO, attack helicopters), fire support planning and execution could be integrated and synchronized as never before.

- The information flow to the supporting artillery batteries was increased because of the vastly improved body of knowledge at the artillery battalion TOC.

- Less radio communication was required. The two TOCs were able to share existing radio nets and to eliminate certain battalion to brigade nets that were no longer needed.

- The staff members could coordinate face to face instead of over a radio net, and with no delay.

In February 1988, the integration of the two TOCs was fully tested during a brigade force-on-force exercise at Yakima Firing Center in Washington. During the four-day exercise, all brigade systems and assets were used in an effort to assess

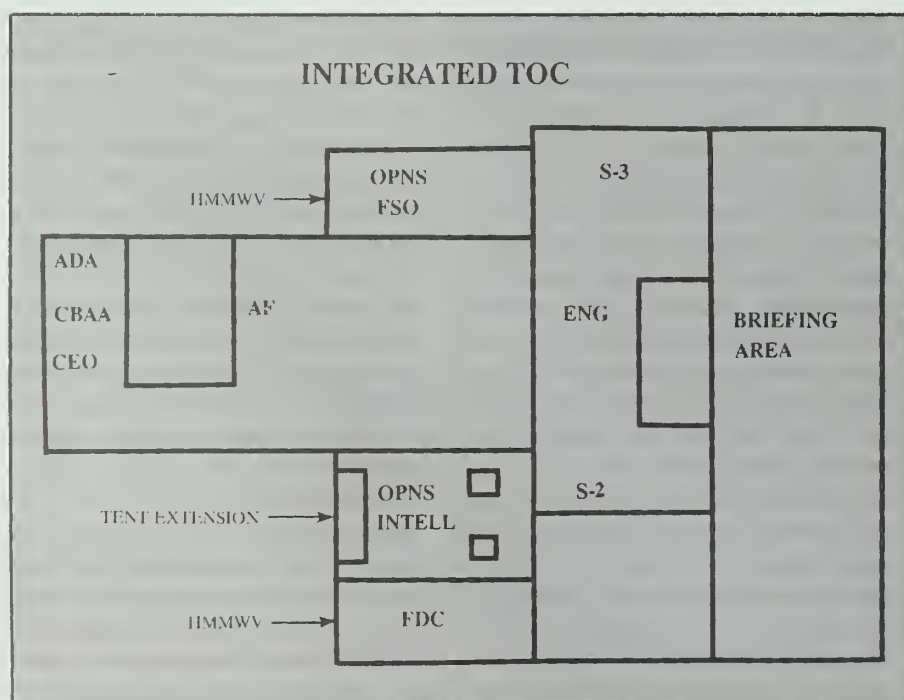
the efficiency of the integrated TOC's operations. Fire support coordination measures were put into effect in real time. As the FEBA changed, the coordinated fire line was also changed and "pushed" to the appropriate level instantaneously.

When friendly air support was available, ACAs (airlift clearance authorities) were brought into effect without shutting down firing units. The artillery battalion S-2, working with the brigade S-2, was able to develop a more accurate picture of the battlefield. This information later proved invaluable in developing a thorough intelligence preparation of the battlefield and accurate targeting data for the engagement of counterfire targets. Some 78 percent of the missions fired during the defensive phase of the operation and 56 percent of those fired during the offensive phase were generated by the TOC. This was more than twice the number of missions generated by the TOC in similar scenarios before the integration.

The S-2 was also able to accomplish near realtime cueing of the AN/TPQ-36 radar in the counterfire battle and was able to query the division artillery's target intelligence files. The artillery battalion S-3 was able to clear position areas and orchestrate the movement of the firing batteries while watching the maneuver battle map and talking face to face with the brigade S-3 and the fire support coordinator. Methods of engagement, ammunition constraints, and the like could be changed or modified as the situation required. Fire support coordination measures were ordered and emplaced in record time.

Some potential disadvantages of the integration also had to be examined during the planning stage—the increase in the communications signature, the physical size of the TOC, and the fact that the integration of the two TOCs created a more lucrative target.

To reduce the communications signature problem, radios were remoted approximately one kilometer outside the position and redundant or unneeded nets were eliminated. Before TOC integration, the brigade and the artillery battalion used a total of 17 nets, including the MCS2. After integration, only 13





nets were needed, and the MCS2 terminal was shared, saving four radio nets overall.

By using the lightweight TACFIRE system and combining digital functions to eliminate one HMMWV, the integration did not substantially increase the TOC's size—only one HMMWV was added, joined to the TOC by a tent extension.

The problem of presenting a more lucrative target could not be overcome,

but this concern was far outweighed by the numerous advantages integration brought about.

In sum, integrating the direct support artillery TOC into the maneuver brigade TOC makes the coordination and synchronization of fire support simpler and easier and serves to build a cohesive combined arms team that is capable of truly synergistic action in warfighting.

As a result of this integration effort,

the other combat brigades in the 9th Infantry Division are now experimenting with the integration of their tactical operations centers.

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**Lieutenant Colonel James D. Crabbe** commanded the 6th Battalion, 11th Field Artillery during the TOC integration. He is now assigned as the 9th Division's G-6. He has served as a battalion S-1, S-2, S-3, S-4, and executive officer, and commanded three times at the battery level. He holds a master's degree from Canisius College.

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# The One-Night TOC-EX

CAPTAIN STEVEN C. SIFERS

The personnel in a light infantry battalion tactical operations center (TOC) need to be trained to act as a close-knit and cohesive group. They must also be as well trained in the tactics and techniques of patrolling as any rifle squad. Becoming proficient in those tactics and techniques, of course, takes practice—lots of practice by everyone involved in the operation of the TOC.

Although it is not expected that TOC personnel will have to do the actual fighting on an objective that a rifle squad will have to do, an entire operation may hinge on their proficiency in the skills of movement, navigation, noise and light discipline, and camouflage, as well as the staff functions of planning and controlling.

There are many difficulties with training a light infantry TOC during the daily operations of a battalion, but I have found that three concerns are the most prominent—getting the “key players” (battalion commander, XO, S-3, command sergeant major, and others) to the training; keeping them away from their usual jobs for the shortest possible time; and sustaining the training.

At first glance it might appear that an ideal time to train TOC personnel would

be during a battalion field training exercise (FTX), with all the companies in the field. But this is often not the case—again because the key players need to be elsewhere doing other tasks. During an FTX, for example, the battalion commander, S-3, and XO need to evaluate the rifle company actions on the objective; the command sergeant major needs to be where he can inspire and motivate the soldiers; the S-2 is usually busy controlling the opposing force; the communications-electronics officer (CEO) is making sure the retransmission site is functioning; and the fire support officer and air liaison officer are conducting final coordinations for close air support.

To help solve these problems, the 2d Battalion, 75th Ranger Regiment at Fort Lewis uses three keys to TOC training: Stabilize TOC personnel, build them into a cohesive team, and train them during one-night TOC exercises (TOC-EXs).

In the past, the tendency has been to fill the TOC roster at the last moment with anyone who might be available. The battalion made the decision to fill by name the slots not assigned by specific duty position. These positions are mostly the radio-telephone operator (RTO)

positions, and an RTO now remains in that position until he is promoted out of it or leaves the battalion.

The 2d Battalion uses two TOCs in the field (designated simply TOC 1 and TOC 2). The headquarters company commander maintains the roster of personnel for TOC 1, and the battalion S-5 maintains the roster for TOC 2.

Another form of stabilization is in the configuration of the TOC for movement and patrol base occupation. The TOC is divided into three fire teams. Fire Teams A and B are the security elements, and Team C contains the command and control element. Team A moves in the lead with Team B in trail, and Team C moves in the middle (Figure 1).

In a perimeter grouping, Team A always has the 12 o'clock and 3 o'clock positions while Team B has the 6 o'clock and 9 o'clock positions. Team C occupies the middle of the perimeter (Figure 2).

The S-3 Air is the leader of Team A, the CEO is the leader of Team B, and the operations sergeant is the leader of Team C. Personnel positions within each team remain constant whether in a perimeter or moving in a wedge, in file, or on a road march. This makes it easier to

assimilate new personnel into the TOC, because everyone knows the position of everyone else.

Using established team-building techniques, we try to make each TOC and the personnel in that TOC feel they are a part of a unique organization within the company. Members of a TOC operate together whenever possible, even when their activities do not involve the command and control of the battalion, or when some of the key players are not present. They march together during road marches; they assemble together even on company jumps; every opportunity is taken to establish them as a cohesive group. (A friendly rivalry between the two TOCs has been going on for three years.)

The idea of training TOC personnel in one-night FTXs was born out of the need to have the staff officers available for the training. The time required is one afternoon and night. Done once a month in addition to normal deployments, this exercise gives the TOC personnel the needed training for standardization and proficiency. An exercise of this nature also provides the time for correcting any TOC deficiencies noted in past FTXs without involving the rest of the battalion.

The scenario for a TOC-EX is controlled by the HHC commander and is a combination of fieldcraft and staff functions. On the basis of the battalion's mission essential task list (METL) and the likely sequencing of missions, the HHC commander develops the plan and draws graphics for the operations sergeant. He then comes up with a time line for the afternoon and the night. This time line is flexible enough to allow for retraining, errors in navigation, and an after-action review at the conclusion of each phase.

The schedule need not be distributed to anyone in the TOC, but there is no need to keep it a secret either. Aside from the HHC commander, the only element that needs it is the one playing the three rifle companies in the exercise. In our case, we use the HHC XO as the companies. He has an RTO with a digital message device group (DMDG), the time schedule, and the regiment's tactical SOP, which contains the reporting format for our operations. The XO also carries a separate radio on which he and the HHC commander can talk about slowing

down or speeding up the schedule.

The one-night TOC-EX has proved valuable in keeping proficiency up and, at the same time, keeping to a minimum the time the staff is out of touch with the battalion. It is especially valuable in the areas of the standardization of packing lists, inspection procedures, movement techniques, occupation of patrol bases, and patrol base activities.

The following example, an exercise conducted by the battalion, illustrates in

more detail the way a one-night TOC-EX works.

The scenario for this particular operation involved the battalion conducting an airborne assault, a link-up with follow-on forces, a relief in place, a passage of lines, three company raids, and a road march. The operation involved an additional time constraint—since it was an airborne assault, we needed to conduct sustained airborne training (SAT). We used the morning PT hour for this training, though, since the night movement and the road march would be enough PT for the day.

Off-setting this time constraint was a time saver—a warning order was written the previous day. This gave the RTOs time to draw radios, conduct a communications exercise, review the communications electronics operation instructions, and memorize key call signs. It also gave the operations sergeant time to highlight operations schedules and to draw graphics on maps.

(These are all actions done in our normal deployment time schedule; since we were working on a very condensed planning sequence, early notice to certain personnel did not hinder the operation or deprive them of time they would normally get.)

The day began at 0630 with initial manifest call followed by the hour of SAT. The staff was then free for the rest of the morning to conduct staff business. The OPORD time was 1230, in the TOC 1 planning bay.

In a typical TOC-EX, the OPORD lasts about 30 minutes and focuses on items that are not in the SOP. The five-paragraph patrol order format is followed with emphasis on the enemy situation and the mission. The communications plan is discussed in detail and the escape and evasion routes are stressed. The final item in the order is usually a chalk talk that details movement formations, crossing danger areas, reaction to enemy contact, and occupation of a patrol base. This serves as a reminder for the old personnel and a brief description for the new. From the OPORD we move straight to final inspections.

Although we rehearse our actions during final inspections on normal deployments, on the one-night FTX we do not,

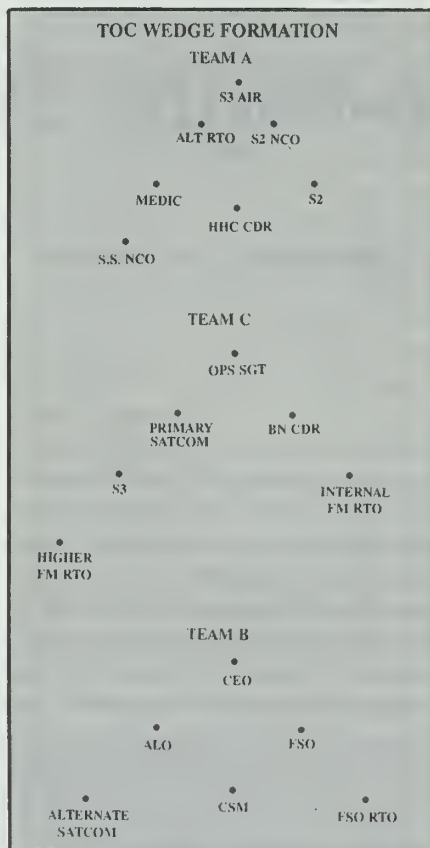


Figure 1

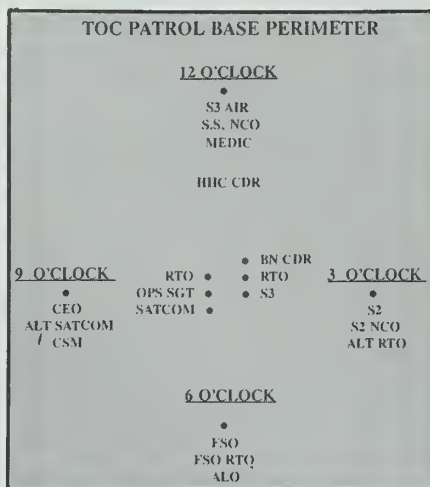


Figure 2



because there is time to do and redo them on the ground. The inspection procedures are standardized so that each leader knows exactly what he is looking for. The supply room is open at this time to issue any last-minute items that may have been forgotten. The final task at the inspection is cross leveling the battery load and rigging the rucksacks for the jump. From final inspection we move straight to the aircraft.

A TOC adheres to standard airborne time schedules; in this case, airborne station time, take-off time, and time on target were all met. Some critical actions are evaluated on the drop zone, especially the time it takes to establish the radio nets. Key leaders and the RTOs jump the radios and put them into operation immediately after placing the weapons in operation. Parachute recovery techniques, movement off the drop zone, and assembly time are evaluated as well. In this TOC-EX, the TOC was assembled in 43 minutes.

Even as the TOC assembled, reports were coming in, forcing the operations sergeant and the RTOs to record on the run. At the completion of the assembly, after the battalion commander received all the updated report information, we held our first AAR. One significant comment for future operations was that we should try to jump with one of the line companies next time. This would add some realism in the number of people running around on the drop zone. It would also add some confusion to the assembly plan because not everyone on the drop zone would be heading for the TOC 1 assembly area, thus making it a little more difficult to assemble.

By the conclusion of the AAR darkness was falling, the airborne assault was complete, and we were ready to start the link-up. The TOC controlled the link-up and the relief in place and then began its own movement toward the passage lane. In this movement phase the soldiers learn a great deal in the area of fieldcraft and patrolling techniques.

The scenario portrayed the rifle companies as infiltrating to conduct three company raids. This gave the TOC time to do as much movement as needed to control the raids and to occupy and reoccupy a patrol base. This is where it be-

came evident to everyone in the TOC how important it is to practice during the hours of darkness. This scenario also allowed us a great deal of time in the patrol base to practice patrol base activities. (Soldiers can discuss what to do in a patrol base and calmly talk about the effects of darkness, rain, and cold while sitting in a well-lit building and think they are prepared for it. But nothing matches the actual conditions to raise the frustration level and set everyone's nerves on edge.)



During patrol base activities, some of the staff can be allowed to rest so they can conduct business throughout the next day with no decrease in their normal output. During the patrol base activities, the staff planned the return road march and put the plan on the DMDG for transmission to the companies at the end of their raids.

The raids ended, and the DMDG mes-

sage was sent. The TOC conducted a three-hour road march to the rear and returned in time to conduct an hour-long AAR, perform recovery maintenance, get a hot breakfast, and begin the day with the rest of the battalion.

The following comments made at the final AAR reflect the flavor of the lessons learned and relearned on an exercise of this nature:

- The battalion fire support officer can assist the S-3 during the passage of lines by providing the front line trace information and contact information from his forward observers.
- Near and far side rally points on the passage lane must be designed and disseminated.
- The patrol should always halt before changing directions at night.
- A listening halt for 15 minutes is needed after occupation of a patrol base.
- Key equipment needs to be designated for destruction or evacuation in the event the patrol base is compromised.
- Before darkness, all luminous tape, watches, and compasses need to be illuminated by a flashlight so they will remain visible during the night.
- Expedients should be developed to be used for quietly erecting antennas, especially in the case of the field expedient RC-292 antenna.

These comments drawn from a single one-night TOC-EX are not intended as TOC SOP items for other light infantry TOCs.

We have found that a one-night TOC-EX is a valuable, time saving training tool. It allows all key players to participate, reinforces TOC cohesion through shared experience, does not hinder day-to-day staff operations, allows for the practice of skills under adverse conditions, and keeps all TOC personnel current on SOPs. All of these things can help to insure TOC proficiency in the event of combat.

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**Captain Steven C. Sifers**, when he wrote this article, served with the 2d Battalion, 75th Ranger Regiment and participated in TOX-EXs such as the one described. He is now assigned to the 2d Battalion, 1st Infantry at Fort Lewis. He is a 1979 ROTC graduate of Texas A & I University.

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# Rifle Marksmanship

CAPTAIN JOHN L. WOLF

The Army's standard service rifle has always been the primary tool of the infantry's trade, and it will continue to be so into the foreseeable future. It therefore stands to reason that marksmanship training should be of primary importance both in one station unit training (OSUT) and in TOE units.

The basic rifle marksmanship (BRM) program of instruction (POI) for Infantry OSUT soldiers consists of 14 periods and 62 hours of formal instruction as well as 30 to 40 additional hours of reinforcement training conducted by drill sergeants. This program is designed to develop qualified marksmen from soldiers who have had little or no previous shooting experience. The program uses a progressive, building block approach to marksmanship and the integrated act of shooting.

The POI is conducted in three distinct

phases: Preliminary rifle instruction, down-range feedback, and field fire.

During Phase I the soldiers are introduced to the M16A1/A2 rifle, its care and maintenance, and the four fundamentals of marksmanship—steady position, aiming, breath control, and trigger squeeze. The extensive use of dry fire, dime-washer drills, target-box exercises, and the Weaponeer system prepares soldiers to fire their first live rounds.

Phase II is conducted on a 25-meter zero range and either known distance (KD) or modified field fire ranges. Soldiers learn to zero their weapons, to fire consistently accurate shot groups, and to receive shot-by-shot feedback at varying distances from 75 to 300 meters.

The final phase, field fire, consists of practice for and the conduct of record fire qualification, automatic fire, and night fire ranges. All soldiers leave the U.S.

Army Infantry Training Center at Fort Benning and go to their initial assignments qualified as Marksmen, Sharpshooters, or Expert riflemen.

Once these soldiers reach their units, unfortunately, they find that marksmanship training seldom receives the same emphasis that it received in OSUT. Many commanders view weapon qualification as just something else to be completed before their units can "get on with more important things." The most common excuses for a weak marksmanship program are limited resources (time, ammunition, range facilities) and a lack of skilled trainers.

To remedy this situation, rifle marksmanship should be included in every unit's mission essential task list (METL), and every commander should be required to develop a marksmanship program that will ensure high-quality training.

To maintain their marksmanship skills, experienced soldiers do not need the extensive marksmanship instruction that initial entry soldiers receive. But good marksmanship is a perishable skill that requires continuous sustainment, and so an effective unit marksmanship program should include all three of the phases used in OSUT.

The following proposed unit training program incorporates all of these phases and can be implemented in any type of unit and at any level. The training described costs a little extra in terms of critical resources, but the cost is well justified, given that marksmanship is a mission essential task. The entire program can be executed in two days for a 150-man company. The total ammunition requirement is 128 rounds per man, or 98 rounds per man if KD firing is not included. The keys to success are planning





and emphasis by commanders and proper execution by small unit leaders.

**Phase I.** A weapons maintenance session and inspection is conducted before firing to identify weapon deficiencies that might cause problems on the range. Magazines are inspected because many malfunctions are caused by old, defective magazines.

Dry fire training is conducted and the four fundamentals of marksmanship are reinforced during the days prior to range firing. Squad leaders train their own squads. The commander allots time on the training schedule instead of relying upon hip-pocket training. A buddy team approach is used in which one man serves as a peer coach to observe his partner and make corrections. This develops individual proficiency, provides quality control on the skills being practiced, and helps develop marksmanship proficiency in the unit's subordinate leaders.

**Phase II.** Down-range feedback is conducted on a 25-meter zero range or, if resources are available, on a KD range. To establish a pattern of consistent individual firing techniques, soldiers fire three-round shot groups without making sight adjustments. This should take no more than 9 to 18 rounds per man. Still

using buddy teams, the coach concentrates on the shooter, not on the target down range.

Weapons are zeroed using the current M16 zero target, NSN 6920-01-167-1396. (The Canadian Bull is no longer used, and younger soldiers have never seen it.)

KD firing confirms battlesight zero at various ranges and builds the soldiers' confidence. Thirty rounds fired at 100, 200, and 300 meters (10 rounds at each range) is sufficient.

**Phase III.** A 40-round practice record fire is conducted. Again, a coach is used with each firer to watch him and help him correct any problems. The qualification table is fired on a different lane from the one on which the practice table was fired.

The following additional training tips, which are used to train OSUT soldiers, can be easily incorporated into unit marksmanship programs:

- Leaders should familiarize themselves with the manuals. The new FM 23-9 contains many good training tips on marksmanship. It covers the phases of training, lists the training aids and devices that are available, and provides a helpful range operations checklist.
- Ownership of the training program should be established in the subordinate

leaders. Training should not be surrendered to a committee-type approach. Squad leaders should be made responsible for training their squads, and a competition or reward system should be established, with an awards ceremony or visible recognition for the best individual firers and the best subordinate units.

- Good marksmanship skills should be practiced whenever weapons are used in training. Even when soldiers are firing blanks, they should practice good shooting fundamentals.

- MILES or Weaponeer systems should be used when live ammunition is not available. This gives soldiers immediate, accurate feedback without going to the range.

Good marksmanship is a critical but easily degraded skill. As infantrymen we rely on our ability to shoot well; as leaders we owe it to our soldiers to train them well.

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**Captain John L. Wolf** was a company commander in the 2d Infantry Training Brigade at Fort Benning. A 1980 graduate of the United States Military Academy, he has also served in platoon leader and staff assignments with the 9th Infantry Division and in various assignments with the Ranger Training Brigade at Fort Benning.

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# Scout Platoon Vehicle

CAPTAIN MARTIN N. STANTON

As an observer-controller at the National Training Center (NTC), I participated in three ground cavalry training rotations. The first two involved the cavalry troops of the 194th Armor Brigade (Separate) and the 197th Infantry Brigade (Separate). The third involved a troop of the 3d Squadron, 3d Armored Cavalry Regiment (ACR). I believe that the results of this training have certain im-

plications for J-series mechanized infantry scout platoons.

The organization of these three troops was virtually identical—basically regimental cavalry troops of two tank and two scout platoons with a heavy mortar section. They were organized exactly the same as those in a J-series mechanized infantry unit. Their equipment, however, was radically different. The two separate

brigade troops were equipped with M60A3 tanks and M901 ITVs for their scout platoons, while the 3d ACR troops had M1A1 tanks and M113s with TOW caps; we called the latter vehicles M220s.

I won't dwell on the obvious advantages of an M1A1 over an M60A3. What was interesting to me was the difference in performance between the two types of scout platoons. The scout platoon of the





Vehicle with TOW cap in raised position.

3d ACR troop tended to achieve more TOW kills than those of the two independent troops. Although this may be partially explained in terms of specific scenarios, I do not believe that this alone was a major factor. Nor do I believe the platoons' level of training or tactical competence was a major factor. All three troops had good soldiers and conscientious leaders who tried hard, learned from their mistakes, and continued to improve tactically throughout the rotation.

The largest single reason for the difference in TOW kills, in my opinion, was their vehicles. As a scout TOW vehicle, the M220 appeared to be far superior to the ITV.

I will not argue the merits of the ITV in general. At the NTC, Echo companies in the mechanized infantry battalions have been both successful and unsuccessful using this weapon system. Their success has seemed to depend more on the tactical proficiency of the unit (from battalion task force commander to individual crew skill level) than on any specific failure of the vehicle itself. In short, as an antitank vehicle in an antitank company, the ITV works well enough.

As a scout vehicle, however, it has

several drawbacks that reduce its efficiency when it is used in a reconnaissance role and decrease its survivability:

- Only two members of the crew can observe from the vehicle without dismounting. When the ITV is moving, the driver and the track commander are the only ones who can see out of it. While it is stationary (erect), only the driver and the gunner can observe. (The commander's periscope field of vision is so narrow that it does not merit discussion.)

- The ITV has only an M60 machine-gun for a secondary weapon. As a scout vehicle, therefore, it is always at risk from a sudden encounter with enemy reconnaissance or fighting elements.

- The vehicle cannot move with the TOW in its firing position. This is not a problem so long as things go according to plan (that is, if the unit always gets to set up overwatch positions where it wants them). In a surprise situation, though, the ITV crew members will lose anywhere from 10 to 15 seconds erecting its turret and acquiring the target, and this may be more time than they have.

The M220, as a scout vehicle, has several key advantages over the ITV:

- With its open troop target compart-

ment, the M220 affords each crew member a sector of observation. In addition, each of the crew members in the troop compartment hatch can engage troop targets, as well as aircraft, with their small arms in sudden encounters.

- The M220 has a .50 caliber machine-gun as a secondary armament. This gives the vehicle a limited antiarmor capability (in addition to the TOW missile system), a limited anti-aircraft capability, and a greater penetrating capability against buildings and fortifications.

- The M220 can move with its TOW system fully erected and ready to fire. There are two important reservations about this, however. First, before firing, the crew must perform a self test to make sure the system is properly boresighted. (Obviously, this requirement can probably be waived in desperate situations.) Second, the nightsight should be recollimated at every halt. The open nature of the M220 allows for improved acquisitions (more people are looking). It also allows the TOW gunner to track aircraft (helicopters) more easily than he can in an ITV.

Given these factors, it is not really surprising that the 3d ACR troop did better with its TOW than the two independent brigade troops.

I do not advocate doing away with the ITV, but it needs to go to the antitank companies where the ability to fire from cover and reload under artillery fire are more important than all-around observation on the move.

For the scout platoons of all mechanized infantry and armor battalions and cavalry squadrons, however, the ITV just does not meet the requirements. Until all of these organizations receive the Bradley cavalry fighting vehicle (and it's going to be a while), I believe we can greatly improve the combat power of the scout platoons and their ability to conduct reconnaissance missions by equipping them with M220s.

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**Captain Martin N. Stanton**, an Infantry officer, is a company observer-controller at the National Training Center, Fort Irwin. He previously led rifle and TOW platoons in Korea and commanded the combat support company, 2d Battalion, 2d Infantry at Fort Lewis. He is a 1978 graduate of Florida Institute of Technology.

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# ENLISTED CAREER NOTES



## FROM ACTIVE DUTY TO USAR OR ARNG

Not all soldiers who have decided to leave active duty want to terminate their military ties completely. Many want to continue their Army connection as citizen soldiers while they start college or a new career. Serving in the Army National Guard or the Army Reserve can fulfill that desire and provide other benefits as well.

When a qualified soldier decides not to reenlist, he must receive counseling from a Total Army Career Counselor (TACC) who is an inservice recruiter. This counseling should be done at least 90 days before the soldier's actual date of departure from the service. Its purpose is to show a soldier the opportunities and benefits of transitioning into the Reserve Components.

An obvious benefit is the opportunity to earn additional income while in college or while learning a new job. Another benefit is the chance to build military retirement points. This could be important if a soldier decides to stay in the Reserve Components for a lengthy period.

The nation will benefit from this type of military service. The need for manning the Reserve Components with qualified citizen soldiers who have been well-trained in the active force is indeed important.

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## FOREIGN LANGUAGE PROFICIENCY PAY

To be eligible for foreign language proficiency pay, a soldier must be certified within the past 12 months in a foreign language for which the Department of Defense has a critical need, and he must be assigned to military duties that require his language proficiency.

On 1 April 1988 the Army revised its program to include all MOSs in which assigned military duties require proficiency in a foreign language.

Still, many soldiers who could be authorized foreign language proficiency pay (FLPP) are not getting it. Some of the reasons could be the following:

- Soldiers and commanders do not know about the entitlement.

- Soldiers are serving in positions that require language proficiency but are not recertifying annually with the Defense Language Proficiency Test (DLPT).

- Soldiers are serving in language-requiring positions and are taking the DLPT annually, but their individual proficiency levels are not high enough to qualify for the extra pay.

FLPP can be paid in addition to any other allowance to which a soldier is entitled. Payment levels range from \$25 to \$100 a month.

FLPP levels are based on proficiency ratings in listening and reading and on the difficulty of the language. Soldiers who are proficient in a foreign language need to contact their local test control officers or education centers to obtain more information on testing procedures.

Once certified, soldiers need to make sure their records reflect their language proficiency so they can be considered for assignments requiring that proficiency and thus be eligible for FLPP.

U.S. Army Reserve soldiers in the Individual Ready Reserve (IRR) or Individual Mobilization Augmentation (IMA) programs can also receive FLPP during active duty for training. The extra pay is authorized for soldiers in IMA positions that require a foreign language or for enlisted soldiers with the following primary MOSs: 96F, 97B, 97E, 98C, 98G, or 98Z, and all CMF 18 linguists.

Army Reservists who would like to be scheduled for testing should write to ARPERCEN, ATTN: DARP-ZPA, 9700 Page Blvd., St. Louis, MO 63132-5200, or call their enlisted career advisors or personnel management officers toll-free.

## NCOES AND PROMOTIONS

As competition for promotions grows ever more intense, even eligibility for consideration adds to the intensity. Emphasis is continually placed on educating leaders, and the education comes through the graduated steps of the noncommissioned officer education system (NCOES).

The Advanced Noncommissioned Officers Course is mandatory for promotion to master sergeant, and the Primary Leadership Development Course (PLDC) is mandatory for promotion to staff sergeant. Further changes have been made to make schooling a requirement for promotion to other grades.

Effective 1 October 1989, a soldier will have to be a graduate of a PLDC to be eligible for promotion to sergeant. After 1 October 1990, staff sergeants will have to have completed a Basic Noncommissioned Officer Course (BNCOC) to be considered for promotion to sergeant first class by a Department of the Army centralized promotion board.

Any soldier who has not attended the necessary schools needs to push hard to get enrolled. Excuses or reasons for not attending will not change his promotion eligibility. Failure to pursue these important requirements will delay his career progression.

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## CLARIFICATION OF THE 48-MONTH TOS POLICY

Since permanent change of station (PCS) policies were revamped and certain restrictions imposed, the most misunderstood change has been the 48-month time on station (TOS) requirement.

Many soldiers have the misconception that once they return to CONUS (the continental United States) they will not be nominated or eligible for another overseas assignment until they have served 48



months on their current installations.

In fact, soldiers who have returned from overseas assignments can be provided with overseas assignment instructions again when they have served at least 24 months on their current CONUS installations. The 48-month TOS requirement applies only to requests for CONUS to CONUS moves.

Exceptions to the 24-month policy will be authorized if the turn-around time for a particular primary military occupational specialty (PMOS) and paygrade is less than 24 months, or if a soldier is assigned to a PCS-length MOS-producing school. Assignments issued to graduates of these types of courses will be consistent with the needs of the Army and will in no way guarantee that a soldier will be assigned to the installation where the training was conducted.

AR 614-200 and AR 614-30 contain additional information on the changes to PCS policies.

### **APPEALING AN EVALUATION REPORT**

When an evaluation report is forwarded and accepted for inclusion in a soldier's official military personnel file (OMPF), it is presumed to be correct, prepared by the proper rating officials, and an objective judgment and considered opinion of the rated soldier.

The appeals system exists to protect the interests of the Army and to ensure fairness to the soldier whenever administrative errors occur or the soldier's potential or manner of performance is inaccurate. At the same time, it avoids casting doubt upon the integrity and judgment of the rating officials without sufficient cause.

Soldiers who are thinking about appealing an evaluation report are strongly encouraged to read Chapter 4 of AR 623-205 in its entirety before preparing a packet. A complete understanding of

the appeals system can save time, effort, and the anxiety created by having an appeal returned without action.

Appeals should be submitted as early as possible, because preparing a successful appeal packet becomes increasingly difficult as time passes. An appeal packet must be complete and will not be forwarded or considered until all the supporting documentation is enclosed.

It is a soldier's responsibility to monitor what is in his OMPF. If he disagrees with an evaluation and can support a valid appeal with legitimate and substantiating evidence, he should refer to Chapter 4 of AR 623-205 for guidance in preparing and submitting an appeal.

### **RESERVE COMPONENT CMF 11 COURSES**

The Infantry School is producing Career Management Field (CMF) 11 courses for Skill Levels 1, 3, and 4 that will be taught by the U.S. Army Reserve Forces Schools and Army National Guard Academies. Through these courses, soldiers will be able to earn Military Occupational Specialty (MOS) qualification and progress through the Noncommissioned Officer Education System (NCOES).

Nine courses are available: 11B10, 11C10, 11H10, 11M10, 11B30, 11C30, 11H30, 11M30, and Infantry Advanced Noncommissioned Officer Course (ANCOC).

For more information, call the School's Enlisted Training Branch, AUTOVON 835-1612/1788 or commercial (404) 545-1612/1788.

### **RESERVE COMPONENTS NCOLP MEMBERSHIPS**

Specific key positions that must be filled with NCOs who are assigned to the Noncommissioned Officer Logistics Program (NCOLP) must be identified as such. The

soldiers assigned to those positions must be members of the NCOLP, and the NCOLP course is a prerequisite for NCOLP membership.

The nine-week resident course is conducted at the Quartermaster School, Fort Lee, Virginia. In addition, the U.S. Army Institute for Professional Development offers NCOLP as a correspondence course.

Graduates of the course are awarded Skill Qualification Identifier (SQI) "K" and assignment to a valid NCOLP position.

Further information is available from ARPERCEN, AUTOVON 693-9568 or commercial (314) 263-9568.

### **BRADLEY MASTER GUNNER COURSE**

Beginning with Class 4-88, the Bradley Fighting Vehicle Master Gunner Course increased in length from 12 to 14 weeks. In Fiscal Year 1990, Unit Conduct of Fire Trainer (U-COFT) Instructor/Operator (I/O) certification will be a prerequisite for the course, because students will be trained as senior I/Os.

During a transitional period of one year, however, units may send non-I/O certified soldiers to the course. These students will be trained as I/Os rather than senior I/Os, and will spend only 12 weeks in the course. A test covering I/O knowledge and skills will be administered prior to senior I/O instruction.

Personnel who are scheduled to attend the BFV Master Gunner Course should review COFT power up, power down, and maintenance procedures, prebriefing, and debriefing. They should also review the matrix exercise numbering and matrix movement rules in detail.

Graduates of the course will be COFT experts responsible for I/O quality control, recertification, and training management. They will also be certified to use the Infantry School's exportable I/O course package to train the new I/Os their units need.





# OFFICERS CAREER NOTES



## FA DESIGNATION

Functional area (FA) designation is a process that is critical to an officer's career. Historically, though, Infantry officers have paid too little attention to it. A high percentage of them have failed to submit a functional area request form, or have requested functional areas for which they did not have the education or military experience.

DA Pamphlet 600-3, Commissioned Officer Professional Development and Utilization, in the Officer Ranks Personnel Update Series, is an excellent place to find information on functional areas and typical assignment paths.

To make an informed choice of FAs to put on his preference sheet, an officer should assess his abilities and background, considering the factors that are used in determining a "good fit" for an officer and for the Army:

- Officer preference.
- Officer performance (OERs).
- Undergraduate/graduate discipline.
- Academic grade point average (GPA).
- Assignments and military education.

Infantry officers with an academic background in a technical field and a GPA of 3.0 or better are well-suited to the technical FAs. The Army especially needs qualified Infantry officers in the critical functional areas of FA 49 (Operations Research Systems Analysis), FA 51 (Research and Development), FA 52 (Nuclear Weapons), FA 53 (Systems Automation), and FA 48 (Foreign Area Officer).

Officers in Year Group 83 are projected for designation in March 1989 and Year Group 84 in September 1989, and they are urged to forward their transcripts and preferences to Infantry Branch in plenty of time.

## FA DESIGNATION YG 83

Captains in Year Group 83, with dates

of rank between 1 October 1986 and 1 September 1987, will be considered for Functional Area designation in March 1989.

It is imperative that these officers review DA Pamphlet 600-3 and their own personal and professional qualifications before forwarding their functional area preference sheets to the Total Army Personnel Command (PersCom). They are strongly encouraged to have their undergraduate and graduate transcripts forwarded to Infantry Branch before 15 February 1989.

The point of contact at Infantry Branch is CPT Mike Oates at AUTOVON 221-0207; HQDA, ATTN: TAPC-OPE-I (FADSP), 200 Stovall Street, Alexandria, VA 22332-0414.

## BRANCH QUALIFICATION AND THE NEXT ASSIGNMENT

Branch qualification is the process by which an Infantryman attains the specific skill and experience that he needs to be successful at the rank of major. Still, Infantry Branch at PersCom occasionally sees officers with good files who are passed over for promotion to major because they have not completed their branch qualification.

Specifically, the requirements for branch qualification are the following: First, after completing the basic course, an officer must complete *at least* 12 months in a TOE unit. Normally, he does this in the first assignment in which he serves as a platoon leader and assistant staff officer. Next, he must complete a resident combat arms advanced course. And finally, he must complete *at least* 12 months of "successful" company command. Normally, he does this during his second troop assignment, in which he may also serve as a primary staff officer.

Following branch qualification, the most likely assignment for an Infantry officer is one "away from troops."

There are several paths an officer may follow during the branch qualification process and into that next assignment:

- IOBC, first troop assignment, IOAC, second troop assignment (CONUS 48 months, OCONUS 24 months), away from troops assignment.

- IOBC, first troop assignment (36 months), IOAC, troop assignment (Korea, 12 months), CONUS troop assignment (48 months), away from troops.

- IOBC, first troop assignment (Korea), TRADOC troop assignment (30 months), IOAC, second troop assignment (CONUS 48 months, OCONUS 36 months), away from troops.

- IOBC, first troop assignment (Alaska/Hawaii, 48 months), IOAC, second troop assignment (CONUS 48 months, OCONUS 36 months), away from troops.

The assignment pattern an officer takes depends solely on the location of each assignment and the stabilization policies in effect at the time. Whichever path he follows, however, he will get the same opportunities during his first two troop assignments to become branch qualified. And regardless of the career path, eventually he will complete an "away from troops" assignment.

The philosophy behind an "away from troops" assignment is based upon two considerations: First, the Army needs captains who have had company command experience to recruit and train its future leaders, and to serve in functional area assignments where their experience is critical in developing new technologies to meet the needs of the soldiers in the field.

Second, once an Infantry captain is branch qualified, he normally has time to complete another assignment before attending a command and staff course, if he is selected. This will put him in an ideal position to go to a troop assignment as a major and get the S3/XO time required to remain competitive for battalion command.



There are many different types of "away from troops" assignments: Functional area, USMA, ROTC, Recruiting, RG advisor, SGI (small group instructor), NTC/JRTC, and also assignments in Europe and Korea.

Some of these assignments have particular requirements (experience/civilian education/military education) that an officer must meet to be considered for the position.

All officers are urged to seek guidance from their chain of command when considering their next assignment. And this is never more critical than when a branch-qualified captain is preparing to go "away from troops." Commanders should encourage their officers in directions to which their talents are best suited. Not all branch-qualified captains would make good small group instructors or platform instructors, for example. Some would best serve the Army and themselves as recruiting company commanders.

Finally, regardless of which "away from troops" assignment an officer receives, he must be convinced that it is the most important assignment he could have at that time. To remain competitive, Infantry officers must be as successful when assigned "away from troops" as they are when assigned "with troops."

Points of contact at Infantry Branch for branch-qualified captains are CPT Tom Schoenbeck, CPT Vince Brooks, and CPT Steve Barclay, AUTOVON 221-5520 or commercial (202) 325-5520.

## U.S. ARMY RESERVE IOAC ATTENDANCE

Infantry officers in the U.S. Army Reserve should keep in mind that they must complete the Infantry Officer Advanced Course (IOAC) before they can be promoted to major. They can do this in several ways:

- The Army Correspondence Course Program (ACCP) offers four phases, with Phases II and IV being completed in residence at Fort Benning. Phases I and III can be taken by correspondence or by attending a U.S. Army Reserve Force (USARF) school. It is possible, therefore, for an officer to take Phase I through a USARF school and Phase III

by correspondence, and complete the remaining two phases at Fort Benning.

Although an officer does not have to complete Phase I before Phase II, he must be enrolled in Phase I before attending the phases at Fort Benning. He does have to complete Phase II before Phase IV.

- The resident IOAC-RC course, also known as the 87-day short course, is offered at Fort Benning only once a year, typically beginning in June. It is available to all Reserve officers and can be funded, on a limited basis, by the Army Reserve Personnel Center (ARPERCEN).

Attendance is managed under a priority system: First priority goes to captains within two years of promotion to major who have not completed an advanced course; second, other captains; third, senior first lieutenants in infantry troop units; and fourth, senior first lieutenants in the Individual Ready Reserve. (Although the attendance of second lieutenants is not prohibited, Infantry Branch at ARPERCEN will not allocate quotas for them or recommend their attendance.)

- The 147-day long course (the same one Active Army officers take) runs four or five times a year at Fort Benning. Reserve officers may attend this course, but only if the units to which they belong fund it.

To qualify for enrollment in IOAC, an officer must have a valid security clearance, meet the Army's height and weight standards, and have a current

physical. For the 87-day course, the physical can be no older than 18 months.

## ROTC DUTY

The selection and assignment of officers for duty with the Reserve Officer Training Corps is a nominative process. The nominations are coordinated and monitored by Infantry Branch for all officers in the ranks of lieutenant colonel and below.

Each nominee must meet certain criteria in addition to the specific requirements established by the requisition:

- An assistant professor of military science (APMS) must be a college graduate, an advanced course graduate, and branch qualified.

- A professor of military science (PMS) must be a college graduate with an advanced degree (CEL 2), must be a command and staff course graduate (MEL 4), and must have maturity, broad military experience, and recent troop duty.

- Both PMS and APMS must have high moral and personal traits and acceptable standards of military bearing; must be available (stability break, if required, finalized before nomination); and must not be under consideration for any other position.

No officer is assigned to ROTC duty without the prior approval of the authorities of the educational institution.

## CALLING OR VISITING ARPERCEN

Each USAR Infantry officer is managed by one of the Personnel Management Officers (PMOs) at the Infantry Branch, Army Reserve Personnel Center (ARPERCEN), according to his rank and the last two digits of his Social Security account number (see accompanying chart).

An officer planning to visit Infantry Branch may call one of these numbers for directions, and also to make sure his PMO will be available when he arrives. Two weeks notice should be given whenever possible.

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# BOOK REVIEWS



We have received a large number of interesting and informative books and other publications in recent months. Here are just a few of them; we will mention more in our future issues:

• **CAVALIER IN BUCKSKIN: GEORGE ARMSTRONG CUSTER AND THE WESTERN MILITARY FRONTIER.** By Robert M. Utley (University of Oklahoma Press, 1988. 244 Pages. \$19.95). This is the first in a new series titled *The Oklahoma Western Biographies*, and it is an excellent beginning, largely because the author, Robert Utley, knows more about the U.S. Army on the western frontier during the 19th century than anyone else now writing. He has written extensively on that army, the men who led it (including Custer), and those who fought in its ranks. Although this is not a detailed biography in the strict sense of the word, Utley does not in any way slight his subject. In fact, he raises a number of fascinating questions about Custer and the army of his times and provides some interesting answers. He does a fine job and his book should be read by all U.S. military professionals.

• **HOOD'S TEXAS BRIGADE: TOM JONES' SKETCH BOOK MILITARY NUMBER ONE** (Hill College Press, P.O. Box 619, Hillsboro, TX 76645. 1988. \$15.00). Tom Jones is a well-known free-lance artist who has lived in Texas for most of his 68 years. He has long-standing ties with Hood's Texas Brigade—his great-grandfather served with that unit until his death at Gaines' Mill in 1862—and served as president of the brigade's association in the 1970s. He divides his book into four major parts—photographic interpretations, uniforms and accoutrements, battle standards, and military statuettes. His sketches are authentic in every detail and his accompanying commentaries are historically accurate.

• **SOLDIERS, SUTLERS, AND SETTLERS: GARRISON LIFE ON**

**THE TEXAS FRONTIER.** By Robert Wooster (Texas A&M University Press, 1987. 240 Pages. \$22.95). An outstanding book in all respects, it is the second in the Clayton Wheat Williams Texas Life Series. The author concentrates his well done narrative on the years from 1848 to 1890, "during which the U.S. Army maintained its strongest and most significant presence in the Lone Star State." In actuality, his book is as much a social and cultural history of the entire U.S. Army on the western frontier as it is a history of the Army in Texas in the years before and following the Civil War. The numerous sketches by Jack Jackson add much to the book's historical value. The author's major interest is not in giving the details of the numerous military expeditions but in giving "an accurate description of life at these complex military forts in a manner which appeals to the general reading public as well as the interested scholar." This he does, and we urge all U.S. infantrymen to read his book.

• **MILITARY PISTOLS AND REVOLVERS.** By Ian V. Hogg (Sterling, 1987. 128 Pages. \$24.95). Ian Hogg is one of the world's foremost authorities on military small arms, and we have mentioned his name many times in this section of our bulletin. In this particular book, which is a greatly expanded and up-dated version of a 1970 work, Hogg tells the story of the most significant pistols and revolvers used by the world's armies from the early 19th century to the present. Each weapon is described and illustrated, with full data and notes on performance, loading, stripping, and cleaning. This is an outstanding reference book, one that nicely complements the author's 1978 book (written with the late John Weeks) titled *PISTOLS OF THE WORLD*.

• **VIETNAM WAR LITERATURE: AN ANNOTATED BIBLIOGRAPHY OF IMAGINATIVE WORKS ABOUT**

**AMERICANS FIGHTING IN VIETNAM.** Second Edition. By John Newman with Ann Hilfinger (Scarecrow Press, 1988. 299 Pages. \$27.50). An expanded version of the first edition that was published in 1982, this book lists more than 400 novels plus a large number of plays, short stories, books of poems, and other imaginative works. The arrangement is chronological within five major categories, and there are author and title indexes. Only those works that could actually be read and annotated have been included.

• **THE CIVIL WAR DICTIONARY.** Revised Edition. By Mark M. Boatner III (David McKay, 1988. 994 Pages. \$29.95). Although several corrected reprints of the original 1959 edition have appeared from time to time, this is the first completely revised version. More than half of the entries are devoted to people, with military operations drawing the second largest number. Most of the entries are short and incisive because the author wanted to have as many entries as possible in his book. He makes the point that his work should not be considered "the ultimate source book of Civil War history" but should be looked on as a vehicle to direct further research into particular areas of interest.

• **BORDER AND TERRITORIAL DISPUTES.** Second Edition. Edited by Alan J. Day (Gale, 1987. 462 Pages. \$120.00). This new edition of a fine reference work updates the first edition, which was published in 1982. It provides details on some 80 contemporary border and territorial disputes throughout the world. The coverage is limited to land-based disputes and does not include maritime questions. The book's five major sections cover Europe, the Middle East, Africa, Asia, and the Americas and Antarctica. Maps show the area of each dispute, and the book has a select bibliography and a comprehensive index.

• **SOVIET ARMOR SINCE 1945.** By



Bryan Perrett (Sterling, 1987. 160 Pages. \$24.95). With many photographs and line drawings to supplement the author's narrative, this book provides an excellent overview of the Soviet armor establishment as it was in 1945 and as it is today. Along the way, the author discusses the changes that have taken place in Soviet tanks, missiles, tactics, and theories since the end of World War II. He also offers reasons why the Soviet military establishment wanted specific weapons and tanks, how that need was met, and the degree of success each design has enjoyed in actual military operations in which they have been used.

Here are a number of our longer reviews:

**SCHOLARS IN FOXHOLES: THE STORY OF THE ARMY SPECIALIZED TRAINING PROGRAM IN WORLD WAR II.** By Louis E. Keefer (McFarland and Company, P.O. Box 611, Jefferson, NC 28640. 1988. 308 Pages. \$24.95).

This is the story of a little-remembered U.S. Army World War II program that was developed in haste, seemingly had no real goal, disrupted the hopes and plans of thousands of young Americans who were considered above average in intellectual abilities, and eventually ended in confusion and misunderstanding. This is the well told story of that program by a former member who has worked diligently through the official records and mined the memories of hundreds of former participants in the program.

The beginning of the Army Specialized Training Program (ASTP) was officially announced on 17 December 1942. The stated purpose was "to provide the Army with high-grade technicians and specialists by sending qualified soldiers to colleges chosen by the War Department for terms of prescribed study in fields where the Army's own training facilities were inadequate." An unspoken, but very real reason for the program, was to keep many of the colleges and universities in the country on a financially sound footing.

The soldiers accepted into the program were chosen largely on the basis of their predicted learning abilities. While at college, they were to be on active duty, were to be under military discipline, and

were to receive regular Army pay.

The first courses began in March 1943 and, as the author writes, "ASTP was to become the largest single college training program this country ever implemented."

Unfortunately, because of a need to fill the ranks of its ground combat units later that year, the Army in December 1943 chose the policy of bodies before brains and began to reduce the number of men in the program. At least two of every three soldier-students, who had expected to spend at least two years working toward a college degree, unceremoniously became privates in the infantry or another fighting branch just in time to take part in some of the worst combat of the war. They performed well and at least one former ASTPer was awarded the Medal of Honor. No unit ever regretted receiving them as fillers or replacements.

The author has given us the first complete and detailed history of the ASTP program. It contains many lessons for today's mobilization planners.

**THE MILITARY BALANCE, 1988-1989.** Prepared by the International Institute for Strategic Studies (London, 1988. 260 Pages. \$29.50, Softbound).

With its data current as of June 1988, this annual publication contains a comprehensive review of the world's military forces and defense expenditures. The data on more than 140 countries show the changes that have occurred during the preceding 12 months.

In addition to the usual three main sections, this edition includes an analysis of the current state of chemical and biological warfare, and a table that gives examples of military aid furnished by some NATO members. Once again, the Institute provides as a loose insert a map of Europe showing the deployment of the key equipment of the NATO and Warsaw Pact conventional forces stationed between the Atlantic Ocean and the Ural Mountains.

Of particular interest to U.S. military personnel today is the essay that discusses NATO and Warsaw Pact conventional forces (pages 233-241). This is a subject that has received a good deal of attention

in this country in recent months and will continue to do so in the months ahead.

**JANE'S ARMOUR AND ARTILLERY, 1988-89.** Ninth Edition. Edited by Christopher F. Foss (Jane's, 1988. 768 Pages. \$127.50).

Christopher Foss fully expects that beginning in the early 1990s many of the world's armies will begin either to upgrade their armored fighting vehicles of all kinds or order new ones. For example, he mentions the two new Soviet main battle tanks now under development—the FST-1 and the FST-2; the Stingray, a U.S. armored gun system he feels "may never enter service with the U.S. Army"; the new M113A3s now being produced in the U.S.; and new artillery, air defense, and multiple rocket systems that will offer a number of important advantages over current systems.

Some of the material that appeared in previous editions of this work—ammunition, AFV armament, turrets and cupolas, and engines—has been moved to another volume in the Jane's yearbook series: *Jane's Armoured Fighting Vehicle Systems*.

What remains is the latest available information—to 1 August 1988—on tanks; reconnaissance vehicles; APCs; AFV families; tank destroyers; SP and towed guns, howitzers, antiaircraft guns, and surface-to-air missiles; and multiple rocket launchers. An easy-to-use reference table shows all armor and artillery in service today.

**AMERICAN INTERVENTION IN GRENADA: THE IMPLICATIONS OF OPERATION "URGENT FURY,"** edited by Peter M. Dunn and Bruce W. Watson (Westview Press, 1985. 185 Pages). Reviewed by Colonel James B. Motley, United States Army, Retired.

In October 1983 the United States invaded the island of Grenada. According to the contributors to this book, the invasion (code named "Urgent Fury") was a product of the increasing concern of U.S. officials with political instability in Central America in general and especially with the potential for communist



destabilization of the region.

In this context, the United States became concerned that the construction of the Port Salinas airfield by Cubans would lead to the transformation of Grenada into a Cuban support base.

This collection of essays, set in 11 chapters, has been written by the same diverse group of military officers, defense analysts, and college professors who published an earlier book dealing with the military lessons of the Falkland Islands war. In this book, they relate U.S. perceptions of the threat to Grenada's history and internal politics; assess the logic of the military option; discuss media coverage of the invasion; and consider the lessons of the intervention and its aftermath. The book includes chapter endnotes and a 33-page chronology of events for the period 15 August 1948 through 8 December 1983.

It is a concise, readable book that provides valuable insights into U.S. combat operations, intelligence deficiencies, and decision making. For that, it will appeal to both the general and the specialist reader.

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**A BRIGHT AND SHINING LIE: JOHN PAUL VANN AND AMERICA IN VIETNAM.** By Neil Sheehan (Random House, 1988. 861 Pages. \$24.95). Reviewed by Doctor Joe P. Dunn, Converse College.

John Paul Vann was a legend in his own time. No one knew more about Vietnam. As a maverick advisor to the ARVN 7th Division in 1962-1963, at a time when optimism and "success" were the orders of the day, Vann spoke out about ARVN failings and the mishandling of the war. After his retirement from the Army in 1963, he returned to Vietnam in early 1965 as an Agency for Internal Development (AID) officer and rose to become a civilian corps commander, a status unprecedented in U.S. military history. At every point in his career, he was controversial, brilliant, dedicated, and indispensable.

Neil Sheehan, who served as *United Press International* and *New York Times* correspondent in Vietnam and later published the *Pentagon Papers*, spent 15 years preparing this book. It resembles

David Halberstam's classic *The Best and the Brightest*, an interpretative history of the war told through the lives and careers of the men who made it.

Sheehan not only depicts Vann's struggles, successes, failures, and frustrations, but provides asides about many other leading individuals, U.S. and Vietnamese. And he delves into the dark side of Vann's personal life—sexual depravity (including the statutory rape of a 15-year-old girl), neglect of family, and dishonest self-promotion.

Sheehan's interpretation of the war and condemnation of policy and strategy makes a large contribution to our understanding of the experience. But the book is too long and wandering, and often poorly focused. For all the fascinating detail, a shorter study with tighter concentration on Vann might have been preferable. The excessive length, unfortunately, will discourage many from reading a significant book that deserves widespread attention.

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**BATTLE CRY OF FREEDOM: THE CIVIL WAR ERA.** By James M. McPherson (Oxford University Press, 1988. 904 Pages. \$35.00). Reviewed by Major Don Rightmyer, United States Air Force.

If you read only one book on the American Civil War this year, I recommend this one. It will certainly become one of the recognized single-volume histories of that war.

A professor of history at Princeton University, James McPherson has prepared this massive work as a volume in *The Oxford History of the United States*. His book covers the period from the late 1840s through the days immediately following the surrender of Robert E. Lee's Confederate army and President Abraham Lincoln's death in April 1865.

In his first eight chapters, McPherson discusses the critical 15-year period of increasing national tensions and the events that led up to the election of Lincoln as president and the subsequent move toward secession by the Southern states.

In the remaining 20 chapters, he covers in considerable detail every conceivable

aspect of the war years, and examines the military, economic, political, and social sides of all that went on during the war.

The thorough descriptions of the major military campaigns are complemented by clear, well-drawn maps. Equally valuable is an 18-page bibliographic essay at the end of the book that will provide an excellent reference source of books that a military professional will want to include in his reading in the years ahead.

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**THE DEFENCE OF DUFFER'S DRIFT.** By E.D. Swinton (Avery Publishing Group, 1986. 72 Pages. \$6.95, Softbound). Reviewed by Captain David K. Taggart, United States Army.

This classic work on small unit tactics is once again available, although in a somewhat different format from previous editions. For too long, this fascinating work has been available only as a bootleg photostatic copy, usually passed from hand to hand.

It is set during the Boer War. Lieutenant Backsight Forethought of Her Majesty's army is charged with the defense of Duffer's Drift, a shallow river crossing. In a series of dreams, the young officer deploys his platoon in different ways to ward off an experienced guerrilla force.

In each dream, the particular deployment ends in disaster. But our hero learns his tactical lessons and employs them in subsequent dreams until he is finally able to accomplish his mission. The lessons he learned are as valid today as they were when first published in the early 1900s.

This particular edition features maps (from an edition first published by INFANTRY in 1972 and then reprinted in 1981) that are useful in showing the effect of terrain on tactics. Also included are a series of full-page drawings from the Boer War period, which unfortunately serve only to contribute to the high cover price of this slim volume.

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**LONG WALK THROUGH WAR: A COMBAT DOCTOR'S DIARY.** By Klaus H. Huebner (Texas A&M University Press, 1987. 207 Pages. \$17.95). Reviewed by Doctor Charles E. White, USAIS Historian.



This is a fascinating study of war. Written by a combat doctor, it is the drama of infantry in battle. Doctor Huebner served as the surgeon for the 3d Battalion, 349th Infantry Regiment, 88th Infantry Division, from September 1943 to May 1945. He traces the activities of his battalion from its final staging preparations at Fort Sam Houston, Texas, to North Africa and on up the Italian peninsula to the Brenner Pass in Austria, just 55 miles south of the Bavarian village where he was born in 1916.

Throughout the book, Huebner tells the compelling story of the boredom and excitement, fear and bravery, agony and joy, hatred and love that was the combat infantryman's daily bread. As he writes, "I walked with the men who carried guns and slugged it out on foot. I treated the wounded where they fell." Often, that meant setting up his battalion aid station in the nearest available place that offered some protection and comfort for the wounded. He and his medical personnel were in constant danger from small arms, mortar, and artillery fire, as well as from mines, booby traps, and occasional sniper fire.

Every infantry commander should read this book, because Huebner writes about one aspect of war that only recently has been explored.

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**THE WAR THE INFANTRY KNEW, 1914-1919: A CHRONICLE OF SERVICE IN FRANCE AND BELGIUM.** By Captain J.C. Dunn. A reprint of the 1938 edition (Jane's 1987. 613 Pages. \$29.95). Reviewed by Captain Harold E. Raugh, Jr., United States Army.

It is not the generals who engage the enemy in combat, and in the case of the British Army in World War I on the western front, it appears it was a rare occasion for a general officer even to visit a front-line trench. It is the battalion, company, and platoon commanders, and especially the noncommissioned officers and privates, who bear the brunt of battle. They are the ones with the most interesting stories to tell.

This is a wonderful book. It is a compilation of factual, personal accounts of commissioned and enlisted members of the 2d Battalion, The Royal Welch Fusiliers,

a distinguished regiment that served on active service throughout the Great War. Among its members were the noted authors Robert Graves and Siegfried Sassoon.

Originally published in a limited edition in 1938 and anonymously edited by the highly decorated regimental medical officer, Captain J.C. Dunn, this is not just a tome of mundane facts and boring accounts. The editor, after reading many unsatisfactory and embellished World War I memoirs, decided to present a wide perspective of the war as seen by the members of an infantry battalion, including "details of trench life, raids and battles, billeting, delousing, the local population, types of recruits, morale, rations, humour and entertainments."

The life of an infantry battalion in war is a dynamic and multifaceted event, and this book chronicles a particular battalion's everyday activities and the feelings of its members in a singularly effective manner.

Keith Simpson, a former faculty member at the Royal Military Academy, Sandhurst, has written an enlightening and informative introduction to this edition. In it he describes the life of Captain Dunn ("more cut out for a general than a doctor," said one regimental soldier), the somewhat controversial evolution of the book, and the relationship of Sassoon, Graves, Dunn, and a host of other individuals to the regiment. It also has more than two dozen pages of easy-to-read sketch maps to help the reader better understand the battles mentioned in the text. A complete index and glossary supplement the accounts, and a specially researched photograph section adds much to the book's value.

After the original edition was published in 1938, one reviewer noted it was "one of the finest of all War books." That comment was an understatement. This is a book that should be required reading for all infantrymen.

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#### RECENT AND RECOMMENDED

**NATO STRATEGY AND NUCLEAR DEFENSE.** By Carl H. Amme. Contributions in Military Studies Number 69. Greenwood Press, 1988. 208 Pages. \$37.95.

1989 MILITARY HISTORY CALENDAR.

By Raymond R. Lyman. Paladin Press, 1988. \$8.95.

**A COMPANY OF HEROES: THE AMERICAN FRONTIER, 1775-1783.** By Dale Van Every. A Reprint of the 1962 Edition. William Morrow, 1988. 328 Pages. \$9.95, Softbound.

**POLISHING UP THE BRASS: HONEST OBSERVATIONS ON MODERN MILITARY LIFE.** By Michele McCormick. Stackpole, 1988. 160 Pages. \$8.95, Paperback.

**"WOULD THE INSECTS INHERIT THE EARTH?" AND OTHER SUBJECTS OF CONCERN TO THOSE WHO WORRY ABOUT NUCLEAR WAR.** Compiled and edited by Jack C. Greene and Daniel J. Strom. Pergamon-Brassey's, 1988. 78 Pages. \$9.95, Softbound.

**NUCLEAR WAR AND NUCLEAR STRATEGY: UNFINISHED BUSINESS.** By Stephen J. Cimbala. Contributions in Military Studies Number 68. Greenwood Press, 1987. 288 Pages. \$39.95.

**SOE IN THE FAR EAST.** By Charles Cruickshank. Oxford University Press, 1984. \$25.00.

**THE FIRE OF LIBERTY: THE AMERICAN WAR OF INDEPENDENCE SEEN THROUGH THE EYES OF THE MEN AND WOMEN, THE STATESMEN AND SOLDIERS WHO FOUGHT IT.** Compiled and edited by Esmond Wright. St. Martin's, 1984. \$19.95.

**THE HALF WAR: PLANNING U.S. RAPID DEPLOYMENT FORCES TO MEET A LIMITED CONTINGENCY, 1960-1983.** By Robert P. Haffa, Jr. Westview Press, 1984. 277 Pages. \$25.00, Softbound.

**NUCLEAR AMERICA: MILITARY AND CIVILIAN NUCLEAR POWER IN THE UNITED STATES, 1940-1980.** By Gerard H. Clarfield and William M. Wiecek. Harper and Row, 1984. 518 Pages. \$19.95.

**WAR BIRDS: DIARY OF AN UNKNOWN AVIATOR.** A Reprint of the 1926 Edition. By John MacGavock Grider. Edited by Elliott White Springs. Texas A&M University Press, 1988. 277 Pages. \$17.95.

**GENTLEMEN OF THE BLADE: A SOCIAL AND LITERARY HISTORY OF THE BRITISH ARMY SINCE 1660.** By G.W. Stephen Brodsky. Contributions in Military Studies Number 70. Greenwood Press, 1988. 224 Pages. \$39.95.

**TO CONQUER A PEACE: THE WAR BETWEEN THE UNITED STATES AND MEXICO.** By John Edward Weems. A Reprint of the 1974 Edition. Texas A&M University Press, 1988. 500 Pages. \$16.95, Softbound.

**THE LONG MARCH ON ROME: THE FORGOTTEN WAR.** By Charles Whiting. David and Charles, 1988. 160 Pages. \$22.95, Softbound.

**SOME DESPERATE GLORY: THE WORLD WAR I DIARY OF A BRITISH OFFICER, 1917.** By Edwin Campion Vaughan. A Reprint. First printed in England in 1981. Henry Holt, 1988. 232 Pages. \$19.95.

**SOVIET MILITARY POWER: AN ASSESSMENT OF THE THREAT, 1988.** Office of the Secretary of Defense, April 1988. USGPO S/N 008-000-00488-9. 175 Pages. \$10.00, Softbound.





# From The Editor

## A NEW YEAR

With this issue we begin our 69th publishing year. Needless to say, our publication could not have reached this ripe old age without the loyal and faithful support of our U.S. Infantrymen.

We are particularly grateful to a small band of loyal adherents who have stuck by us through thick and thin during the past two trying years. If you recall, in October 1986 we were ordered to cease publication as an official Department of the Army periodical, although we were permitted to continue publishing—under TRADOC auspices but with some very stringent restrictions—as a professional bulletin.

Unfortunately, many Infantrymen heard only the first part of the message and assumed we had gone out of business. As a result, our flow of material from the field dropped off to a trickle, and several hundred paid subscribers allowed their subscriptions to lapse. Throughout, however, we could always count on a small group of loyal readers, both U.S. and foreign, to boost our morale, send us material, and keep their subscriptions current.

By now, most Infantrymen have come to realize that we are not in the ranks of the departed. The number of manuscripts submitted in recent months for our editorial consideration has risen dramatically, although our paid subscription account is still below a good working level. Hopefully, in the months ahead, more Infantrymen will realize the professional value of *their* publication and will enter their personal subscriptions. We feel we can help them—and you—improve as military professionals.

We have six interesting issues planned for 1989 and look forward to a bright publishing year. Please don't forget—we are still in business at the same old stand. Come see us, or let us hear from you. We stand ready to help in any way we can.

## SUBSCRIPTION RATES

INFANTRY is available to subscribers at \$12.00 for one year and \$23.00 for two years. Foreign (non-APO) subscribers must add \$4.00 per subscription per year to cover mailing (surface mail) and handling charges. Foreign air mail rates will be furnished on request. Single copies are \$2.50 each if sent to a U.S. address.

Payment must be in U.S. currency, by international money order, or by a check or draft drawn on a U.S. bank. For best service, payment should accompany each order, because we cannot start a subscription until we have received full payment for it. Checks, money orders, or drafts should be made payable to INFANTRY.

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